

The background of the image is a stack of books, slightly out of focus. The books have various colored spines: black, red, brown, and orange. Some text is visible on the spines, such as "ONAL", "AMERICAN", and "SECOND EDITION". A white label with some text is also visible on one of the books. The title "Literature Reviews Made Easy" is overlaid on the image in a large, white, serif font with a black outline. Below the title, the subtitle "A Quick Guide to Success" is written in a smaller, white, serif font with a black outline. The author's name, "Paula Dawidowicz", is written in a white, serif font with a black outline at the bottom right of the image.

Literature Reviews Made Easy

A Quick Guide
to Success

Paula Dawidowicz

Literature

Reviews

Made Easy:

A

Quick Guide

to

Success

Paula Dawidowicz

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2. Higher order thinking skills.
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4. Comparison—contrast.
5. Evaluation.
6. Synthesis—integration.
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Introduction

This book is designed for a specific purpose. It's not designed to give you the philosophies of conducting research. It's not designed to give you a background in a specific academic topic. It's not designed to give you theory. It's designed to give you the practicalities of the writing process used in creating literature reviews. It fills the gap for people who want a visualization of the steps between researching for a literature review and completing the final literature review product. It provides lists of questions to help you apply the different analytical components used in academic reviews, and it provides written examples of how those applied components would read. It also includes information on the types of literature acceptable in academic and applied reviews.

This book is the culmination of years of research experience. It's also the culmination of several years of teaching writing and critical thinking to doctoral students. And, although it began as a tool for doctoral students, it has been expanded to

be useful for everyone from high school students through doctoral candidates and professionals developing a simple or extensive literature review.

Why develop a literature review? A literature review is a systematic examination of knowledge available on a topic. In the case of an academic review, which is the main focus of this book, it involves the use of appropriate peer-reviewed articles. The reasons for the use of that source are discussed within the main part of this book, but they include the fact that peer-reviewed articles are sources designed to be unbiased and objective and to use as their sources articles that, themselves, should be unbiased and objective.

The use of such objective information means any insight you as a researcher gain into your topic from that literature review is going to be accurate instead of swayed by someone's perspective, personal interests, or agenda. That measure of accuracy allows you to base the development of your research plan or project on reality rather than speculation or fallacy. It's hard to either create change or discover truth if either your basic understanding of a situation or your beginning premise is faulty. A literature review developed using quality resources, then, lets you start at a point of strength and knowledge.

In almost every section of this book are practice activities and discussion or writing activities. These are activities designed to let you apply the knowledge shared within the section. If this text is used for a class, any of these activities can be used as assignments or as class or independent discussion topics.

There are also a number of additional aids provided in each section. In many early sections

additional sources you can use to gain greater insight into each topic are provided. These sources, as mentioned previously, are available online. In addition, there are numerous lists of questions, guidelines, and several forms provided to help you organize your materials. Note that there's no assistance provided in this book if you're organizing your data on masses of 3 x 5 cards or other similar materials. Instead, there are forms and checklists provided that should help you organize thoughts and notes without using such a card-based method.

This material is organized to mirror as closely as possible your literature review planning, research, and writing process. You can use this material in several ways. You can read it cover to cover and use it to get an overall view of the literature review process. You can read each section and use the practice exercises to progressively hone your skills. You can read each section and develop your literature review along the way. You can use it to gather information on specific activities involved in developing your literature review as needed.

The Literature Review Process

A literature review is an examination of information already available on a given topic. That information can come from several sources. Some might come from scholarly sources—sources providing information from academics using rigid research designs, data collection, data analysis, and reporting standards and sources providing information from other less rigorous sources that may present people's biased, unsupported perspectives on a given topic. While the first type of source has value, the second type has only limited value and is appropriately used only in limited cases, which will be discussed in greater detail later. Regardless of the type of sources used, though, a literature review is a cumulative presentation of information available on a topic in a format where that information is evaluated for its value in relation to a specific situation, activity, or question.

The goal of a literature review is to create a complete, accurate representation of the knowledge and research-based theory available on a topic. By using the current body of knowledge to develop a literature review, you as researcher can extend that knowledge by expanding on the

way that knowledge is understood or applied to the situation or occurrence you're examining. If that literature review is followed by original research like a dissertation, the body of research-based knowledge on your topic can actually be increased because your literature review was strong enough and of good enough quality. Whether preparing to conduct original research is the purpose of a literature review or not, though, knowledge of current research and literature can allow practitioners and researchers to develop programs that create change.

Types of literature reviews

Literature reviews can be done at all levels of education and are often used in business, government, and nonprofit environments as part of their planning process. Needless to say, each of these literature reviews can look and *feel* distinctly different, in part because of the differing goals of the reviews and in part because of the sources those reviews use. These literature reviews can be broken into what I identify as three basic categories: simple, applied, and academic. The differences between each of these categories will be described in the following discussions on selecting and narrowing a topic, selecting literature sources, and identifying goals.

Selecting a topic

The process of developing a literature review begins with you as a researcher selecting the right topic. Regardless of the level of education or the professional environment in which you're developing your literature review, your topic should be one that will sustain your interest for the length of time it will take you to complete the extensive research required to finish your project. Of course, if this literature review is required by

your boss, you have no choice of topic. Hopefully, your job will be sufficiently interesting that the literature review will also be of interest to you. However, where possible, selecting a topic that will maintain your interests is, where possible, a good first step in the development of a quality literature review.

Consider your time period. How long can a literature review take to develop? If you're developing a literature review for a secondary school or undergraduate class (a simple review), you might spend from a month to three months developing it. If you're developing it to support a grant proposal, a project development plan, or a case study of a program (for an applied review), your literature review development process might take no more than a month. If you're developing a senior project, a Master's thesis, or a doctoral dissertation (labeled an academic review because it's used to develop academic knowledge), you spend between 9 months to 2 years researching your topic, with your literature review taking 3-4 months of time, and you may revisit the contents of your literature review repeatedly. Making sure your topic is one you won't grow tired can help you complete your literature review faster and with a greater degree of quality.

Consider how you'll narrow your topic. One of the most common problems researchers can face is trying to research a topic that's too large to be addressed in a reasonable amount of time. As humans, we often want to address the big problem—how to cure low income student failure, how to increase productivity in a company with several productivity-related issues to consider, or similar complex questions—before we fully explore and define the nature of the smaller questions

that must be understood to review that larger problem.

If your topic is too large, encompassing what amounts to many smaller questions, it can be impossible to be thorough enough to draw any conclusions about the research and knowledge already available without researching your topic for years—and very few researchers want to conduct a literature review for that length of time. So, you need to consider how to narrow your topic until your question or hypothesis is specific enough for you to actually do a comprehensive literature review without devoting your life to it.

How do you narrow your topic? Consider whether your question has several subquestions (questions you need to answer to help answer your larger question). If it does, either plan on including those questions in your research or identify one of those subquestions as broad enough to actually be your main research question and shelf the other subquestions for future research projects. If your question doesn't appear to have identifiable subquestions, consider whether the question can be answered in a reasonable length of time. If it can't, revisit whether subquestions actually exist. For help with this subquestion identification process, visit the brainstorming section of this book and use either the free writing or clustering method to identify whatever questions you haven't yet identified. Then select one of those subquestions—one that appears large enough to provide you with research to examine but not so large that it remains unworkable—to use for your literature review research.

If you can't identify subquestions for your main question, are unsure how much information exists about your topic, or are unsure which subquestion to use, then begin your research on

your main question. As you discover the research available on your topic and the material available on your subquestions, you can determine which subquestion you wish to pursue or feel confident about using your main question. However, I offer two cautions here. First, remember that, if you narrow your literature review topic appropriately, you can finish your literature review in a reasonable time instead of taking a year or several years to complete this step in your overall research process. Also, as you research your question, be honest with yourself about the themes you identify in your research. We'll discuss this concept of sorting for themes more later.

For now, though, remember that the themes you identify can themselves help you identify subquestions you can use to narrow your research topic. Consider which themes raise questions that don't have clearcut answers in the research. Those unanswered questions are subquestions that are also potential main questions for your research. Why? Those questions may themselves be large enough to require substantial research to be answered, and they may need to be answered before you can address your larger question.

In other words, even the best planned literature review may need to be revised as you dig into the literature. That's one reason I always think of literature reviews as living organisms. However, with all of that said, there is one overriding goal to conducting any kind of literature review. What is the end goal—to prove you've gained the required skills or the required information, or to produce your life's work? The answer is probably the former rather than the latter.

Let me repeat the point I just made a little differently. If your question has subquestions, you may not be able to answer what you consider to be your main question until you've conducted a study of one of those smaller questions. Why? Your subquestion may actually itself be a large question, often with its own set of subquestions. Let me give you an example:

You're interested in studying why female adolescents in urban areas don't enter mathematics and science higher education as often as males. Your question is:

What factors make female adolescents in urban areas less likely to enter mathematics and science higher education programs?

Your subquestions could be:

What cultural factors, if any, make female adolescents in urban areas less likely to enter mathematics and science higher education programs?

What educational factors, if any, make female adolescents in urban areas less likely to enter mathematics and science higher education programs?

If we make a small change to your major question, you'll find some subquestions need to be answered before the major question can be addressed effectively. Here's an example:

What factors make females less likely to enter mathematics and science higher education programs?

One subquestion might be:

What cultural factors, if any, make female adolescents less likely to enter mathematics and science higher education programs?

However, with that subquestion, you need to break your literature review questions into smaller subquestions, like:

What familial factors, if any....

What community-related factors, if any...

What cultural factors, if any...

Why do the subquestions need to be broken down? When you conduct a literature review, you're normally preparing to conduct a study, develop an application to address a need, or preparing to draw some conclusions about a situation, environment, or occurrence. For each of these, you need to have enough background knowledge of the population you're considering to draw valid conclusions. With no location, age, culture, or environmental parameter limits when using certain research populations, the process of drawing conclusions will be incredibly hard, if not impossible—unless you've explored those parameters as subquestions in your literature review.

If you're doing a literature review for a case study or an applied project, or if you're doing a simple literature review, you won't need to be as comprehensive in your review of available literature. In the first case, you've already greatly limited your populations' potential variable characteristics by limiting the location and environment to which the population you're examining is exposed. In the second case, you're not expected to draw conclusions that are as detailed as necessary for an academic literature

review because you're developing a more practical application of the literature.

Small research questions and larger research questions have a distinct relationship. Normally, the small questions are answered by research studies over a period of time, all of which incorporate a literature review to help people gain an understanding of the realities of their topic. Once those smaller studies answering those smaller questions occur, the new information generated is combined to create a new, greater level of understanding that can be used to answer a more complex question—potentially one of your larger questions. So, don't be discouraged if you determine you need to begin with a smaller question or narrowed location. Your work will still be important.

Narrowing your topic

Having discussed questions and subquestions and how they define your literature review, it may seem ironic to now add the idea of placing limitations on your study topic. However, one characteristic of a good literature review is that you, the researcher, haven't just identified all of the factors and characteristics of your sample population you need to consider as you create a review or identified a question that hasn't been answered that's small enough to work with. You will also have created realistic limitations to your study—areas that you recognize may be important to understanding the answer to the question, but that you also recognize you can't sufficiently examine given: 1) available literature; 2) the changing situation within your population or your population's environment; or 3) the difference different people's backgrounds, behaviors, or attitudes make. Otherwise, you may never be able

to do a thorough enough literature review to gain the necessary understanding of your topic and its variables.

For example, there are a large number of factors that can impact the development of individual family members, including various characteristics of each of family member. As you conduct a study into the nature of the family, then, you need to determine which of those numerous individual characteristics you'll examine as factors. For example, it's fair to limit the factors you consider in your study to the interactions between teenage siblings and newborns if the population you're studying and question you're considering require you to understand those factors. If, however, the relationship between teenagers and newborns isn't necessary to your study because, let's say, you're studying the relationships of grandparents with their newborn grandchildren, you can state that there is literature available on grandparents and teenagers that you're not including because it's not relevant to your study. In other words, you can state that some aspects of your topic, some irrelevant factors, or some other limitations will be placed on your literature review's dimensions—if those limitations are appropriate and don't hamper your understanding of your question, population, or subject.

Regardless of the type of literature review you prepare, you will not have to read every piece of information or every article on your subject. For both the applied and the academic reviews, though, you will have to read enough to get a thorough picture of the available body of research and spectrum of perspectives on your subject. There is no specific number of articles you'll need to read. Instead, you'll know you've read enough because the articles you review will become

repetitive, adding no new understanding for you about your topic. This is why narrowing your topic is so important—to achieve this without making your literature review your life's purpose, your topic has to be sufficiently narrow.

Narrowing your topic becomes even more imperative because, with too broad a topic, your research collection process can encompass so many topics and so much information that you can lose focus as you review and distill the information you collect. As a result, an already unwieldy literature review can quickly become overwhelming.

As you narrow your topic, consider the following:

1. Who will be interested in your question? Why is it important?
2. What period of time do you need to consider in your review? For some discussions, an ethnographic (historic) background is important. For others, only recent knowledge and activities are important.
3. What type of literature does your review topic require? This question is going to be considered more next.

Remember, as you consider how to narrow your topic, that a literature review is different from a research report. Often research reports describe literature that supports a specific perspective. Literature reviews, however, are objective reviews to determine the nature and details surrounding a topic. That way, you can draw trustworthy conclusions about some aspect of your topic. To do that, you'll consider (and discuss in your review) literature that supports not only your initial per-

spective, but also enough other perspectives to give your reader an unbiased understanding of your topic and demonstrate that your conclusions are also unbiased.

So, as you consider who will be interested in your question, remember to consider a number of other questions, as well. They include why your topic is important, how much time it will take to understand and analyze it, and what types of literature you will use. Also, remember you're not considering just one perspective. You're considering multiple perspectives in order to draw objective conclusions.

Selecting literature sources

What types of literature are useful in a literature review? In any quality review of literature, you'll use research-based articles. You'll also read articles local to your topic and situation or event.

As mentioned earlier, you do not have to read every article available on your topic to complete a comprehensive review. In addition, if you're doing a simple literature review or an applied literature review, you may find it preferable to do a more focused review of the literature so your information doesn't become unwieldy.

Local sources versus research-based sources. That said, the process of identifying your sources can be a long one. Depending on your topic and the type of review you're doing, you'll want to use quality research-based sources and you'll probably also want to include some sources local to the situation or event you're examining. Academic, peer-reviewed sources—articles found in peer-reviewed or refereed journals—provide you with objective, research-based insights. Local sour-

ces—newspaper articles, magazine articles, transcripts of speeches, diaries and similar sources and, sometimes, government sources—provide insight into popular opinion or the perspectives of specific special interests groups.

What ratio of these two types of sources will you want to use? That depends on the purpose of your literature review. For simple literature reviews, an equal mix of local and research-based sources is normally appropriate. For an applied literature review that is part of an on-site case study, you will normally need more research-based sources than local sources. However, your ratio will be dictated by your topic and goals. If the literature review is part of a grant application or similar product, the significant bulk of sources used will be research-based sources. Finally, for an academic literature review, local sources will be used only as part of the evaluation portion of your literature review, which is discussed later in this book.

How many sources do you need for your literature review? There is no numerical answer for that question. Instead, the answer is that you need enough sources to let you gain a solid, unbiased picture of your topic. This was mentioned briefly previously during a discussion of narrowing your topic sufficiently. Remember, the goal of your literature review is to create an unbiased discussion of aspects of your topic. To do that, you'll want to do serious brainstorming about potential perspectives, and then you'll want to search for articles that fit those perspectives.

You'll also want to do a review of abstracts for articles on your topic to determine whether there are any other perspectives that have been researched that you haven't considered during

brainstorming. To conduct your review of abstracts, do a general search on your topic to see what different types of subheadings you find. If subheadings look appropriate for your research, then review the articles' abstracts to see what perspectives and ideas actually are appropriate to your discussion. Then, read and critically review the articles and include the information provided in them in your literature review.

Research-based sources. For academic literature reviews, you'll draw the majority of your articles from peer-reviewed and refereed journals. Those articles are accepted by the applicable journals because the journals' experts have determined the information shared in them is valuable and meets rigorous research and analysis standards. The journals' experts also are unaware of the authors of specific articles, so their decisions to publish given articles is based on the quality of the work done and the reporting of that work rather than on the name of the author. This helps guarantee that the information presented in such journals is strong and has integrity, so such articles are appropriate choices for any literature review, regardless of type and expected to be the sources for accurate information in academic literature reviews.

Books versus peer-reviewed articles. As you search for research-based sources, you may come across numerous books you feel are appropriate for your literature review. Perhaps they're written by professors at Harvard, Yale, or other well-respected schools, or perhaps they're written by a world-renowned expert on your topic. They contain enlightening information you find intriguing and informative. They also disagree with the information you've found in the articles you've read.

Should you use those sources? There is no simple answer to that question, since those sources may have value. The authors will probably have documentable background in your topic.

However, you should be aware of several characteristics of books that are different from articles before you make your decision about using those books. First, it usually takes several years to get a book published. That means a book normally doesn't contain the most current information on a given topic. Second, everyone no matter how prominent in a given field has some type of bias, regardless of how much they work to control that bias. Even experts in a field may not see a situation as clearly as they could. Third, and perhaps most important given the second point, there is no blind peer review of the information shared in books. There is no check and balance system to offset the biases that may color what's shared in books.

Remember, a blind review of an article is a review of that article by several (normally three) researchers in the field who are not given the author's name. Instead, they judge the article and the study it describes on its own merit. There are several aspects of articles they use to determine the article's merit as a peer-reviewed article.

The reviewers separately examine the basic framework (basic perspective or philosophy) of the article developed as a result of the author's literature review (similar to yours) as presented in the article itself. Was that framework developed as a result of an unbiased examination of previous research? Was it complete enough? Was the information interpreted correctly? Does the framework developed make sense?

Reviewers also separately consider the research methods and data analysis reported in the article. They determine whether the research procedures and analysis met academic standards—including large enough participant samples, appropriately constituted samples, appropriate data sources or participant questions, and appropriate and meticulous analysis. They also consider whether the conclusions drawn appear appropriate based on the data acquired during the study. Were the conclusions logical? Were they appropriately limited or generalized to the group examined? Only an article that meets required academic standards is published in a peer-reviewed or refereed journal, which is a very different case from the material published in a book.

Considering the rigor to which peer-reviewed articles are subjected, you can understand why books are considered less valuable when developing a literature review than peer-reviewed articles. A publisher may or may not have them reviewed by individuals in academia as part of the decision to publish them, but that review is normally to determine overall interest in using the book for a course rather than a review of specific content. This is certainly in part understandable—academics' time is as valuable as everyone else's, and picking apart a book can be a lengthy and laborious process. So, books do not undergo as rigid a review process.

Selecting research-based sources. So, how do you find the research-based sources you should use? Often, when you conduct a search of peer-reviewed articles, you'll find you either have a large volume of articles from which to choose or you have none. Since there are few topics that are totally unresearched, if you find you have few

sources, you might want to consider trying new search terms. If you find you have too many sources, you might want to consider adding some additional search parameters that will limit your large number of articles a little more. If you have trouble with this search process, bounce ideas off friends or librarians.

Once again, when you have a group of peer-reviewed articles from which to choose, you'll need to narrow the number. Remember, a good first step is to review the articles' abstracts to discover the type of research done, perspectives used and, potentially, the results of the research. Since your goal is to read material on as many different perspectives and to present as much new information as possible that's relevant to your topic, abstracts give you an opportunity to flesh out a planned reading list. Remember, once you've narrowed your topic so you can successfully develop your literature review, be careful not to veer from that narrowed topic.

Selecting local sources. Since local sources can be biased and potentially manipulative, they have limited value in most literature reviews. However, they can help you understand the human dynamic—how people feel about a topic or situation, how people feel about other people, or how people react to a certain event. These sources can also provide details of events that may not be available otherwise.

Here are some examples of situation-specific or event-specific sources:

1. newspaper articles that give details, statistics, and other facts related to your topic and your particular situation or event.

2. newspaper articles that share people's opinions about your topic or about the event or situation you're examining.
3. journals of individuals who experience the situation or event you're examining.
4. historical accounts of the topic, situation, or event you're examining.
5. video recordings or broadcastings on a topic, situation, or even.

Although some of these sources have a specific use—providing statistics, numbers, participants, and more—about your situation, they're not always appropriate to use. At times, those facts can be trusted, and at times they can't. You as the researcher must be a discerning user. Whenever possible, check your facts with several sources. If you find the sources agree, then you can feel safe trusting them. Remember to cite and reference all of your sources, though.

Local sources that describe people's feelings or that quote people do not provide objective information. However, by providing people's opinions and emotions, they tell you how people are responding to a situation. This knowledge is important in *academic literature reviews*, but is particularly important in *applied* and *simple literature reviews*. It is something that must be considered when examining an environment for which you are either developing or evaluating a plan of action or developing a research study. So, these articles have value—as long as they are recognized for what they are and not confused with objective research.

When developing an *academic literature review* or, in most cases, a project to address a need, you will find yourself relying more on academic research sources. These sources will most often be peer-reviewed articles that provide a detailed review of the topic you're examining. You'll use articles that provide information from which you can gain insight into your specific topic, environment, or situation. In other words, consider articles that discuss topics that are related to a part of your study that may not be directly related to your specific topic or situation. For example, if you're examining the potential relationship between speaking loudly during interviews and potential to get hired for senior executive positions, you might examine literature on the impact of speaking loudly on individuals' acceptance of others in the workplace or of the hiring of individuals for junior management positions related to how individuals speak during interviews. More information about peer-reviewed sources is provided in a following section on the nature and quality of sources available for your use, as well as on the *mining* of data—the use of data not directly related to a topic that may still provide valuable insight into the topic for a given literature review.

In addition, later in this book is a discussion of tailoring a literature review to the specifics of the situation you are examining. Here, we focus instead on how peer-reviewed sources foster your ability to high quality critical literature reviews and only touch minimally on the use of other sources.

Peer-reviewed articles. Peer-reviewed articles fall into several categories. They include reviews of relevant literature created by others, literature summaries of articles (reports on articles), study

reports, policy discussions, and examinations of quantitative and qualitative methodologies. Remember that, just because a piece of literature is a study report does not mean it's appropriate for a literature review. It needs to be a report of a study published in a peer-reviewed journal. Each of these types of literature is reviewed again later.

A literature summary does just what its title says it will do. It summarizes a number of articles on a topic. The summary is not of the articles as a whole. Instead, it includes a summary of those portions related to the topic the author was researching. So, all pieces of information the author considered unimportant to the review are not included.

This can present a problem for you as the user of that summary. If the author felt an important piece of information was not important, you may receive a skewed understanding of the original article. In addition, if the article's author had a specific perspective to promote—potentially a biased perspective—then any information raising questions about that perspective might not be included because it would be “unnecessary or unrelated.” The same may apply if the author had a perspective to promote and, as a result, determined any piece of information not supporting that perspective to be irrelevant.

As part of a summary, the articles and information are examined for relative value and validity. There should be an active discussion of the strengths and weaknesses of the information included and a comparison and contrast of that information before conclusions are drawn about the information provided in those articles. However, keep in mind that, even if those articles are included in peer-reviewed journals, they are still

distillations of an author's perspectives. As such, they are useful for gaining ideas about thought in the field, but have to be considered as just that—one perspective—and evaluated carefully with an eye toward critically considering what might not be included in the analyses as much as what is included.

A study report is similar to a summary, although it focuses on a study that has been conducted. It covers every step from framework through conclusions, presenting the applicable information in a comprehensive manner. The presentation includes a discussion of the various perspectives considered in the process of developing the framework upon which the study was based. It also includes a summary of literature on the subject, the gap in academic literature and research on the subject, how a part of that gap was addressed in the study, how the data were gathered and analyzed, and the conclusions drawn and their importance to your discipline. At all points, there is the potential for error or bias, so even if printed in peer-reviewed sources, you as the consumer should again use a critical eye when reading and using the information. To help you, you can ask the following questions. Have they forgotten anything? Is there another possible explanation for anything that was not considered? Has anything changed since the time of the study—is anything new known or understood that would change the importance, relevance, or value of the information shared? How does it apply to the situation or population I'm examining?

A policy discussion analyzes rationale for a policy or the effects of a policy. The analysis is done using peer-reviewed journals. Such policy discussions are valid because of their attempts at objectivity. If at any point the material presented is

not as objective as possible, the author can lose credibility. The value to you as the consumer, then, is in supplying peer-reviewed information about your topic, as well as information about how individuals in policymaking positions think about specific situations. In all forms of literature reviews, this information can prove useful. In all situations, you'll be relating research literature to your specific situation and its dynamics. So, it can be important to understand how policymakers view a situation and the logic or emotions ruling their decisions about that situation. Having that insight can explain occurrences in the development or management of the situation, as well as why certain actions are unlikely or impossible in that situation.

Identifying goals

To summarize, the goal of a literature review is to gather the most current information from the body of knowledge on a given topic you are researching. Some of that information will be contradictory and will present different perspectives. In your literature review, you will present the information, consider its value, and draw conclusions based on that presentation and consideration.

Practice

1. You're curious about the concept of nature versus nurture and what that means to students in middle school. Who might be interested in that topic, and how could you narrow it? What peer-reviewed journals could you use?
2. Your business has just implemented a new Information Technology program. You're curious about how this will impact frontline customer service representatives. Who would be in-

terested in your question? What peer-reviewed sources could you use?

3. The nonprofit agency at which you work has a teen pregnancy program. You're interested in the potential impact of the program on teen mothers' decisions to get Master's degrees. Who would be interested in your question? What peer-reviewed sources could you use?
4. You've always wondered whether it made a difference in people's days if they exercised at the beginning of the day or at the end. Who would be interested in this information, and what peer-reviewed sources could you use?
5. Spending time in the sun is your favorite activity. You wonder what emotional difference it makes for teenagers who get exposed to sun for at least 5 hours a day. Who would be interested in this information, and what peer-reviewed sources could you use?

Discussion or Writing Activity

Choose a topic of interest to you for your literature review. Consider the following:

1. Who would be interested in it.
2. What sources you could use.
3. Whether it is narrow enough.
4. What your ultimate use of it will be.
5. Any concerns you have about the use of that topic and how to develop your literature review.

Answering this information within your text, create a 1-2 page discussion of your topic.

Other Resources

<http://www.utoronto.ca/writing/litrev.html>

<http://library.ucsc.edu/ref/howto/literaturereview.html>

<http://www.library.cqu.edu.au/tutorials/litreview/pages/what.htm>

<http://www.library.cqu.edu.au/tutorials/litreview/pages/why.htm>

http://www.library.unsw.edu.au/~psl/itet_lilt/lit_review/litrev1.htm

Objective Research

Literature reviews provide overviews or histories of topics. They present the logical development of theories or ideas. They present important details of the research conducted by others on the topics and a logical justification of the importance of that research to their own literature review and to any conclusions that can be drawn from that literature review. Researchers accomplish this by scrutinizing others' research, gathered data, and conclusions—critically considering how complete and exacting their efforts were and what might not have been included that must be considered when examining their own topics—and including that information in their literature reviews along with the information they glean from particular researchers' work.

Literature reviews include reports on studies conducted by researchers presented, most often, in article form. Literature reviews should also include summaries of the theoretical and research frameworks used to design the studies reported in the articles, as well as the studies' methodology, data gathered, and results that are important for understanding the relative value of that particular

research to the topic discussed in those literature reviews.

Finally, the discussion of researcher study reports should include a discussion of the important aspects of the quantitative and qualitative methodologies used in the studies. If inappropriate methods were used to gather the information—methods that will not yield a large enough sample of individuals or situations to draw accurate conclusions or even the right type of information to draw any conclusion about the question supposedly examined—that information should be included in the literature review. Why not just leave the information out completely? Someone reading the literature review who has only partially heard about the research and is unaware of its inaccuracies or ineffectiveness or someone examining a literature review for thoroughness will note the absence of that material and have reason to question its quality.

Literature reviews also include articles on policies—analyses of backgrounds going into the development and enactment of policies, analyses of the short-term and long-term results of policies and of hoped-for results, and analyses of people's attitudes about the policies and the results of those policies. Again, the information included should be bounded by what is relevant to gaining an understanding of the topics of the literature reviews rather than by an expectation to include every policy made surrounding the topics. (Often, the government has multiple smaller or repetitive policies enacted at different levels of government or through different avenues that may be nothing more than a method of confirming and informing groups of the original action. Those various policies would only be important to share in a literature review if some specific group or activity

important to understanding the topic resulted from one of those policies in particular. Otherwise, a reference to and description of the main policy alone would be appropriate.)

As you can see, a literature review is a detailed and intricate piece of writing. So, where can you begin your own research to develop such a detailed summary? You can begin by examining literature reviews conducted by others, if they are current and objective. (They can also give you an example of how a literature review should look and how it should read, if they've been done well. How to identify whether quality writing exists within a literature review is something you'll learn in following sections.)

However, what if you're unsure whether a literature review is itself objective? How can you tell? Since objectivity is the cornerstone of a quality literature review, it's considered in detail here.

An objective researcher considers a number of factors (or parameters) about the situation, circumstance, or topic being researched. Those factors help explain the topic's characteristics—its evolution, its ongoing existence in the form in which it exists, its conflict with other factors (entities, circumstances, situations, individuals, policies) within its environment, its devolution (if it is devolving or degrading), or any of a number of other characteristics important to understanding its nature.

Peer-reviewed articles on those factors can inform you on what other researchers have concluded about their relative impact on your topic. They can help you identify which factors other researchers have considered and which they haven't. They can explain what conclusions other

researchers have drawn based on their research, and they can provide you with the knowledge to evaluate the quality of those researchers' conclusions. For an *academic literature review*, they will be the cornerstone of developing objectivity.

However, for *simple* and *applied literature reviews* where peer-reviewed sources are not necessarily used, the process of developing and maintaining objectivity can be more difficult. In those reviews, the same requirement for objectivity exists—the researcher/writer must present accurately in an unbiased manner the factors important to the topic being discussed in the literature review. However, in those reviews, the burden falls on the researcher/writer to generate the objectivity that academic researchers might find pre-packaged in peer-reviewed articles.

So, if you are a researcher/writer working on a simple or applied literature review, scrutinize your articles and sources for objectivity and bias carefully using the same requirements as those of an *academic literature review* writer if you want to produce a quality literature review—and pay close attention to the section on brainstorming techniques. The methods provided in that section can prove integral to your ability to guarantee you thoroughly scrutinize articles as well as identify important factors—and factors making up the nature of *those* factors—as you develop a well-rounded, objective literature review.

For any of these literature review forms, though, you as a researcher need to use a structured process if you're going to succeed in creating an objective literature review. Here's an outline of the process.

1. You identify your topic and narrow it sufficiently. You identify some initial factors impacting (parameters of), the topic you're examining. For example, if you're examining the impact of changes in male-female interaction in small businesses resulting from an increased number of businesses owned by females, you might examine several factors:
 - a. Male-female communication styles.
 - b. Communication styles of different ethnicities and races.
 - c. Communication styles in small versus large businesses.
2. You begin searching articles on your topic.
3. After you've read enough articles to give you a preliminary idea of both the research that's been done on your topic and the results of that research, you create an outline of the points you will consider about each factor (parameter).
4. With your outline in hand, you research additional articles that explore the strengths and weaknesses of the initial articles you examined to create your outline, as well as any articles presenting and exploring new factors or points about those factors you hadn't previously identified [adding those points to your outline so you can continue to track the factors and subfactors (smaller factors going into or affecting the nature of the main factors you've identified) you're considering in your research]—their strengths and weaknesses, the confirmations and contradictions they present in relation to the original articles you examined, and the modifications of the conclusions presented in those original articles. You

also note the conclusions drawn in the articles themselves.

- a. This step is important, because it allows you to create an unbiased work.
- b. Part of your final literature review product will be an analysis, comparison and contrast, evaluation, synthesis, and integration of the articles you research, so developing a thorough and well-rounded outline based on the research available is integral to your success.
- c. Your end result will be the core information for a discussion of your topic relating directly to your question and the particular circumstances you're examining.

Practice

1. You work in an office for a small, woman owned business where you've noticed that women are not in positions of leadership. It sparks in you a curiosity about whether this is a common occurrence in women owned businesses. What factors do you think you need to consider?
2. You're studying special education, and you're particularly interested in the experiences of special needs middle school students in inclusive environments when they have Attention Deficit Disorder. What factors do you need to consider? What subfactors do you need to consider?
3. You're a psychologist with 20 years experience working with parents of Sudden Infant Death Syndrome (SIDS) babies. You've observed patterns in their behavior, and you want to conduct a study on the long-range impact of SIDS on parent's self-esteem. Who would be inte-

4. rested in your research, and what peer-reviewed journals could you use?
5. Your job requires you to travel randomly from time zone to time zone. You live in Illinois in the Central zone, but have made 3 trips to California, 2 trips to Florida, 5 trips to Colorado, and 1 trip to Alberta, Canada in the last month. You notice that you're beginning to have trouble sleeping on a regular schedule. You're having trouble thinking, and you're experiencing random body pains. You wonder whether the mild depression you're noticing is related to the Circadian rhythm shift you're experiencing or whether it's because of the stressful job you have. Who would be interested in your research, and what peer-reviewed sources could you use?
6. You love aquariums, and notice that they help you relax. You wonder if there is a difference in people's responses to larger versus smaller fishes. Who would be interested in your research, and what peer-reviewed sources could you use?

Discussion or Writing Activities

When conducting research to decide what information with value exists on a topic and how that information can be used to further knowledge or action in an area, researchers shift from writing summary reports to writing literature reviews composed of research analyses and arguments.

To prepare:

- Consider the differences in the process and content you can identify between a summary and a literature review.

- Think about how objectivity fits into this discussion of summaries vs. literature reviews.
 - Consider the challenges you think might arise when developing a literature review research argument that wouldn't arise when developing a summary report.
1. Either discuss in class or write a 2-3 page discussion on this information. Use examples to illustrate your points.
 2. Identifying objectivity can be difficult. To prepare, consider arguments you've gathered from a number of sources—the news, articles, books, and your work environment. Ponder the following questions:
 - Which of those arguments were presented using objectivity, and which were presented using bias?
 - What differences were there in the topics of those arguments? Do you see a pattern in the types of topics that are presented in objective manners or biased manners?
 - What differences were there in the types of sources used to support those arguments? Do you see a pattern in the types of sources that are used to present objective arguments and the types of sources that are used to present biased arguments?
 - Were the objective arguments presented effectively, or did they appear to be biased even when their creators stated they were meant to be objective? What specifically made them effective, or

what made them ineffective? Do you see patterns in the arguments that made them effective or ineffective?

3. Either discuss in class or write a 2-3 page detailed discussion of the difference between objectivity and bias and the importance of using objectivity in a literature review. Use examples to illustrate your points.

Other Resources

<http://www.utoronto.ca/writing/unbias.html>

<http://www.englishbiz.co.uk/popups/objectivity.htm>

<http://lgxserver.uniba.it/lei/foldop/foldoc.cgi?objective+-+subjective>

Generalizability and Transferability

Consider this fictitious example: someone works in a small rural hospital in Northern Maine. As the head nurse there and a graduate student, the person decides to conduct a study on the impact of overtime caused by inclement weather on the small nursing staff and the resulting tension with the doctors also on the hospital staff.

Why would that small study important, or even worth conducting? It's just a little hospital in a little place, after all, and all of the people are individuals who may not respond in the same way as people anywhere else, right? What difference could the study's findings possibly make to *the big picture*?

The example presented above is just one potential situation where researchers can ask the question: Why is this research important to anyone but the individual doing the study or the small organization being studied? If you're going to create a quality literature review, it's an answer you must understand.

Unlike purely scientific studies that can identify universal causes and effects (i.e., x causes y to happen and without x there will be no y —how tornadoes are formed, which gene causes which birth defect, and why the aurora borealis is visible), social science studies deal with humans who are variable by their very nature. Rarely can causes and effects for actions be absolutely identified. Often, social scientists instead have to accept being able to identify only that two things may occur at the same time rather than causing one another (a *correlational* relationship). In other words, social scientists often deal in cobbling together understanding of a topic (or situation) from understanding other topics (or situations) and what's different about those topics (or situations) from their own. That includes how people respond or events occur in those situations (or surrounding those topics).

In other words, understanding that differences in environments, the characteristics of the individuals involved in those environments, and variations in other factors surrounding those different environments in studies you can review that are related somehow to your topic helps you more clearly understand the nature of your own topic. Given that knowledge, understanding the generalizability and transferability value of various studies is important.

How relevant to nursing in other locations is what is found in the small hospital in rural Maine? And is there value in studying a small business in Toledo, OH to a person examining business functions in Los Angeles? Is there value in examining a volunteer training program in a small local health center in Albuquerque, New Mexico for someone running a national hospital chain?

For social scientists, the goal is normally not to conduct research for the sake of pure knowledge acquisition. As a result, most social science researchers find themselves forced to answer the question: So what? Why is this research important to me or anyone else? Why is it not a gathering of random information that will sit in an obscure article in a seldom-read journal in a stuffy, cramped library on the extension campus for a minor state university?

Researchers find the answer to that question in two words: *generalizability* and *transferability*. Each is considered here.

In his consideration of qualitative research, Myers (2000), himself a researcher, provided one good explanation of generalizability. He stated it's determined by an examination of the nature of the study population and the larger population. In other words, if the pertinent characteristics of the small nursing population are similar enough to the pertinent characteristics of the nursing population in other small hospitals, other rural hospitals, or even to other hospitals in total, then you the findings can be generalized to that appropriate larger population.

Notice that, when Myers (2000) speaks, he does not mean that something that is generalizable must apply to all of humanity. This means, for example, that generalization of the hospital study could mean the generalizability of study results to all rural hospitals, all rural hospitals with certain types of nursing demographics, all rural hospitals with certain types of specializations, or all rural hospitals clustered around some other factor not immediately identifiable. Similarly, in other types of studies, generalizability could refer to groups like all women of a certain age; all firefighters; all

3rd grade students; or all rural high school students in the Northeast, Southwest, or in total.

Note that I stated the generalizability could result from some other factor not immediately identifiable. That's where you as a discerning researcher come in. As you read an article and consider the factors (or parameters) it discusses about a specific topic, consider as well what factors it might not consider. Is there something important there that might create a generalizability link between the article and your topic or, more likely, that might eliminate the potential generalizability of your topic?

Myers (2000) suggests that much social science research is not generalizable. That is probably accurate. People, situations, and circumstances are different for any number of reasons and surrounding any number of factors (or parameters). Those differences can limit generalizability between studies and study results.

However, you as researcher must make the call about whether the differences in numerous social and environmental factors are relevant to the conclusions you're trying to generalize. Does it matter whether the nurses in our example study are, for example, of German or French descent? Does it matter whether they're the first or middle children in their families? Does it matter how long they've worked as nurses, or what their reasons for going into nursing are? Does it matter how often inclement weather occurs or not as to how nurses and doctors respond? Some factors (parameters, dimensions) will matter and some will not.

Some of these dimensions will have been considered in the studies you're reading, and some will

not. It will be up to you to raise a question (if the writer doesn't in the conclusions section) about those factors and their potential impact on the generalizability of the information shared about that study and its conclusions.

However, as you examine articles to see their strengths and weaknesses for generalizability, remember they can provide starting points when considering the factors involved in understanding your specific topic and the population involved. They can help you identify differences you might not have otherwise considered, as well as understand more fully which of those similarities and differences have impacts on your topic that you must consider to have a quality comprehensive literature review. In other words, they can help you identify which factors make a difference to your topic and which appear less relevant. As you conduct your literature review, then, you'll have a clearer understanding of where to focus your energies.

Here are some examples of generalizability.

1. The ability to predict that all mainstream 3rd graders experience an explosion in vocabulary growth in modern mainstream educational curricula.
2. The ability to predict that x% of nurses will quit within the first year.
3. The ability to predict that children will at some point experience separation anxiety from their parents.

Note here that the common words are *the ability to predict*. That means that if something is generalizable, people can make predictions with a measure of certainty about another group with needed

generalizability commonalities to the original group. They can predict with some certainty that the second group will have similar reactions to experiences, similar experiences themselves, similar perspectives, or similar attitudes, or even similar needs to the original group.

Transferability goes hand in hand with generalizability. The decision to transfer research and conclusions from one environment to another is made by readers. Readers may observe any of the following:

1. A similarity in circumstances.
2. A similarity in groups.
3. A potential total or partial explanation for an occurrence or phenomenon.

What does this mean? There may not be enough research done on a specific group (say 3rd graders) to be sure the majority of them or all of them will have a given experience or react in a given way to an experience. There may not be enough research done on the different factors involved in their attitudes or responses—the perspectives, their understanding, the impact of family characteristics or genetics on the situation, or the impact of various environmental differences. However, there may be some limited research that indicates that experience has occurred among a number of 3rd graders in urban environments or that they've responded to that experience in a certain way.

This means you as researcher (consumer of research already conducted) will want to consider the circumstances (environment, population characteristics and make up, and additional factors) and the results of this related research as part of your literature review research process. How

closely are those factors related to your topic and population? Can that research tell you anything about what you might want to explore in greater depth or what you might not need to consider because it has limited importance? Does your sample population have the same experience? This article can prove important, in other words, not only if you're examining urban 3rd graders, but also rural and suburban 3rd graders, or even urban or rural 4th graders.

In fact, you might also consider the article in relation to urban secondary school students, as well. An article can be useful not only for what it tells you about your group, but also for what questions it can raise about the applicability of its topic or results (its transferability) to an-other group. It will be up to you, through your literature review, to help identify whether that applicability is important to your group or just a distraction from more important information you should share. However, whether you consider the generalizability and transferability of the information can have a direct impact on your ability to produce a quality literature review.

Generalizability, transferability and research questions. Considering whether that information can be transferred to rural 3rd graders also gives you somewhere to start when you consider your research questions. As mentioned above, other ways to consider the information shared in articles is to consider whether it can be transferred to other similar groups of students (perhaps 2nd graders or suburban 3rd graders). What if you're wrestling with identifying the factors you need to consider when developing a literature review to provide background for a specific research question? You may be finding that your research is missing an important piece, or the research already con-

ducted doesn't relate directly to your topic or question. You can examine articles that don't seem directly related to your topic to see what they can tell you about your topic and the factors you need to consider as you develop your questions. It's possible that you might be overlooking an important factor that might be generalizable or transferable from research not obviously linked to your own topic. For example, in our Maine study on nurses' working environments and weather-related emergencies, can you find transferability to the reactions of social workers to increased workload as a result of natural disasters? Perhaps some of the factors considered in that study can help you consider possibilities related to your own questions, either helping you narrow them or refocus them to include new, potential important aspects of your topic.

Hunting for transferability is sometimes called *mining the data*. Mining the data means looking at a circumstance that's similar and considering whether what you know about that circumstance can be applied to your topic or situation. In other words, will the information you know about one situation apply to another, similar situation? Since it can be a valuable research and literature review technique, it will be discussed more in following chapters.

Practice

Consider your potential topics. Based on this information, can you design your question to allow generalizability or transferability of information? Write a few versions of questions that would allow generalizability or transferability. Further, as you do your brainstorming, outlining, and assessment of articles, how can you make sure you keep generalizability and transferability in mind?

Discussion or Writing Activity

Select one of your topics. Consider the following:

- Your ultimate goal for your literature review.
- The characteristics of the specific group you're going to study or develop a project to affect.
- Who the information in your literature review can be generalized or transferable to and how it might be useful to those other groups.

Draft a 1-2 page paper explaining your plans. If you still haven't decided on a topic, consider drafting a description of several of your topics. Describing on paper what you plan to do can help you determine which of these topics might work best for you.

Other Resources

<http://writing.colostate.edu/guides/research/gen/trans/com2b1.cfm>

Reference

Myers, M. (2000). Qualitative Research and the Generalizability Question: Standing Firm with Proteus. *The Qualitative Report*, 4 (3/4). Retrieved on June 15, 2006 from <http://www.nova.edu/ssss/QR/QR4-3/myers.html>.

Quoting and Paraphrasing

Before considering brainstorming and organization, where you'll find yourself recording some information you read, you need to make sure you understand paraphrasing. It's discussed here.

Paraphrasing is integral to anyone's writing success, but particularly to academics' success for several reasons. The first reason is connected with the use of quotations, the other method of sharing information provided by other authors—which is the bulk of the information discussed in literature reviews.

Why not just use quotations? Quotations within literature reviews detract from writers' demonstrations of ownership and understanding of the knowledge they share in their literature reviews. Often, literature review writers who can't restate the important and relevant pieces of others' writing themselves rely on quotations to avoid admitting their own lack of understanding. So, if literature review writers rely on quotations to express and explain what they've read, it raises a red flag to readers. They could ask: does the author really understand his topic? Their next question could be: does the author understand the literature e-

nough to effectively analyze it? The final question could be: can I trust what the author has written to be accurate, or could it be a misstatement of the literature existing on the topic?

In addition, quotations tend to include information that is irrelevant to the specific topic you're examining. That extra information acts as *noise* for your readers, distracting them from fully understanding or appreciating the points you want to make in your literature review. If you choose to use a quotation as support for a statement you make, then the noise introduced by unrelated information supplied in a quotation can be minimized. Since all quotations should also be explained in the author's own words and related to the topic at hand, though, using quotations as support have limited value.

Further, To maintain the structure of the quotation and still guarantee the information included in it makes sense, sentences incorporating quotations often must be structured differently. As a result, your sentences can become awkward and harder for readers to process. Remember, the goal of any writing isn't to force the reader to focus so much on *making sense* of your writing. It's to force the reader to be informed and affected by *what the words you use mean*. In other words, having awkwardly worded sentences keeps the reader focusing on understanding what you're saying rather than focusing on the point you're making or the information itself.

So, rather than causing your readers to struggle with processing awkward argument construction, using paraphrasing can allow readers to seamlessly understand and remember the points you as a writer are trying to make.

As previously stated, readers can interpret the use of quotations to mean that writers don't understand information enough to accurately rephrase that information. That is, perhaps, the biggest problem with using quotations. If writers aren't able to explain in their own words what someone else is saying, then readers can lose faith in writers' ability to process and apply it to their own topic.

As a result, you generally should only use quotations when an author's wording is so exact and so valuable that you can't paraphrase it better. Otherwise, you should paraphrase the information you share from other sources. So, when reading something, ask yourself whether the words used by the author are the only or the best way to express what the author is saying. Then ask yourself whether any extra information is included that isn't necessary. If the answer to the first question is no or to the second question is yes, then the quotation isn't perfect as written by the author and should be rewritten by you.

How you cite a quotation is based on the writing standard you're supposed to use. Since most social scientists are required to use APA formatting for their professional writing and journals (*academic literature reviews*), APA formatting is used as an illustration throughout this book.

However, in either a *simple* or *applied literature review*, any number of styles could be used. Such styles could include Strunk, MLA, or even Chicago style. The style used will depend upon the consumer of the literature review. If it's a *simple review* for a class, it could likely be done using the Strunk or MLA style. If it is an *applied literature review* for a nonacademic audience, it could use the format of the publication for which it's written

(like the Chicago format) or could still use one of the more formal, often academic styles. To make your decision about style, consult with your consumer (teacher, journal, agency, or organization) about expectations.

The information provided here uses APA style because, again, that is the standard for academic social scientists. Using that style, when creating a quotation, you place quotation marks at the beginning and end of the material you quote. Then, you put an appropriate citation in parentheses just outside the closing quotation before putting a period at the end of the sentence. It would look like this:

“The price of tea in China is directly related to the amount of tea that makes it to market” (Smith, 2004, p. 25).

Please note that the name of the author, the date of the publication, and the page number are included in the citation. This particular quotation and its source are fictitious, but they do provide an illustration of the standards for citing a quotation. However, giving you additional information in this book on how APA citations would look for all of the various types of resources you might use would force the creation of a second volume. So, please consult the *APA Manual*, referenced formally in the *Other Resources* section, for exact citation information—if you’re expected to write using APA style.

Writing can be difficult enough without being unsure about whether you’ve used the information you gather from your sources correctly. Although one method of using the information in whatever literature review you’re writing is **quoting**, we’ve just discussed why using quotations is

not always necessary or desirable. So, **paraphrasing** is another alternative for presenting the information you gather effectively and correctly.

A paraphrase **does not use** the words used by the author whose information you are sharing in your own work. A paraphrase, instead, is a rephrasing of the information you've read without changing the context or meaning of that material. Perhaps the best way to understand what this means is by considering some provided examples.

Read the following information. It is a fictitious paragraph from a fictitious article—one by the author Jamison in 2006.

Numerous reasons were identified for high school students electing to attend college. Numbers of both rural and urban high school students indicated they were bored with their environments and saw college attendance as a chance to experience new challenges (Jeffries, 2001; Davis, 2004; Jermaine, 2005). In addition, urban low income students saw college as an opportunity to escape poverty (Kauffman, 2006). High income high school students indicated a third motivation—the desire to please their parents (Crane, 2005).

To paraphrase, first read the material and consider it in the context of the topic you're researching. That context will help you determine what pieces of the information provided will be important to include in the paraphrase you write.

Let's say your topic is whether students' reasons for acquiring higher education impact their success. You will find different information important in this paragraph than if your topic is whether students' economic status during early education

impacts their success in higher education settings. If your topic were a third area—whether students have clear expectations of the role of higher education in their futures, for example—you could even find other information important.

So, your first step in this example—or in any paraphrasing situation—is to read your material, keeping your topic in mind. Remember, your topic was whether students' reasons for acquiring higher education impact their success. As you read, it struck you as important that both urban and rural students applied for college because they were bored and saw college as a chance to grow.

You wondered whether that perception would affect their outcomes. The results of those studies could either support or contradict the concept that economic status impacts students' educational success. You want to share this information. How do you paraphrase it?

There are no exact words that are **the** right answer. There are, however, some words that will make a paraphrase **not** acceptable. Here are some examples of how to avoid creating those **incorrect** paraphrases.

1. If you reread the text several times, make sure you reread it **after** you paraphrase to make sure you haven't accidentally used the words you read. Using the author's words would make it **incorrect**.
2. Do not use pieces of the text inside your paraphrase. Remember, you cannot use part of a sentence in your paraphrase and have it be acceptable. One exception might be if there's a word or two used as a name for a specific event, circumstance, or occurrence.

That word can be used without quotations **if and only if** it is **NOY** a term coined by the author you've read. Such a term **MUST** be quoted.

a. Ex. 1 from the information above.

Jamison (2006) stated that such researchers as Jeffries, Davis, and Jermaine determined that *both rural and urban high school students felt bored with their environments* and believed that going to college was *a chance to experience new challenges*.

b. Ex. 2 from the information above.

Numerous researchers determined that, whether rural or urban, many students believed college would be *a chance to experience new challenges* (Jamison, 2006, p. 23).

Note that both of these incorporate some of the wording. How many words used from the original source are enough to make paraphrasing incorrect? Here's an example of what would be allowable:

Numerous researchers determined that, regardless of whether they're rural or urban, notable numbers of students believed college was an opportunity to *experience new challenges* (Jamison, 2006, p. 23).

One exception to this rule would be the use of a proper name. If a proper name, such as the name for a law, a school, or something similar is used in the article you read and is made up of several words, it can be used in your writing without being in quotations or needing to be cited. *However, remember if you learn some-*

thing about such an entity or program in someone else's writing, you'll cite the author you read as your information source when you paraphrase.

3. You cannot read a paraphrase by your author of another author's work and cite the original author instead of the author you personally read. You cite the author **you** read. Otherwise, your paraphrase is **incorrect**.

Ex. From the information above.

Numerous researchers determined that, regardless of whether they're rural or urban, notable numbers of students believed that college was an opportunity to *experience new challenges* (Jeffries, 2001; Davis, 2004; Jermaine, 2005).

4. You cannot change the meaning of the text. If you're focusing on a different topic from the author, you can share only those pieces of the article that are important to your topic. However, you cannot **add to, delete from, or misrepresent** the information the author presents.

- a. Ex. 1 from the information above.

Numerous researchers determined that, regardless of whether they're rural or urban, students believed that college was an opportunity to experience new challenges (Jamison, 2006, p. 23).

- b. Ex. 2 from the information above.

Numerous researchers determined that, regardless of whether they're rural or ur-

ban, notable numbers of students believed college was their chance to have greater challenges than their parents had (Jamison, 2006, p. 23).

As you can see, these manipulations of the meaning can be slight. However, whether large or small, they would all make your paraphrase **incorrect**. What are those changes? In example (a), *notable numbers of students* has been changed to *students*. The difference is in the implied number of students who demonstrate this belief. In example (b), the paraphrase includes an inference that the original author meant people wanted to experience more challenges than their parents. Instead, the original paragraph stated only that they wanted to experience new challenges without stating what they expected those challenges to mean or to be in relation to those experienced at any point by their parents.

Finally, here's one example of a way this information could be paraphrased well:

Among the reasons researchers have identified for numbers of students, whether urban or rural, to apply for college is because college will provide them with new challenges to experience (Jamison, 2006, p. 23).

Note that part of what makes this paraphrase correct is the citation of author, date, and paragraph or page number.

Reference (fictitious example)

Jamison, J. (2006). Why students attend college. *T H E University Journal*, 30(10). Retrieved

November 4, 2006, from Academic Search Premier database.

Practice

Examine one article you want to use in your own literature review. Identify some information shared in that article you feel is important to share to produce a quality literature review. Following the steps above, paraphrase that information.

Discussion or Writing Activities

1. Do an online search of articles from the New York Times, the Washington Post, or a newspaper local to you. Read 5 articles in their entirety. Practice paraphrasing the important points of each article. Make each paraphrase no more than one paragraph long so you're forced to select only the most important points.
2. Visit the other resources included below, and connect to the paraphrasing links they suggest. Several paraphrasing exercises and quizzes are offered at these different universities' sites. Use the exercises. Then take the quizzes, and see how you do.

Other Resources

http://www.waldenu.edu/c/Files/DocsWritingCenter/writing_the_lit.ppt

http://www.waldenu.edu/c/Students/CurrentStudents_3670.htm

<http://www.utoronto.ca/ucwriting/paraphrase.html>

American Psychological Association (2001).
*Publication manual of the American
Psychological Association*. (5th ed.) Washington,
DC: American Psychological Association.

Selecting Quality Sources for Your Review

It's important to understand what sources are acceptable for a quality review. It's also important to understand that the nature of quality sources can change if you're producing a *simple*, *applied*, or *academic literature review*. To help you place this information in context, I've included a discussion of the sources appropriate for a small literature review first.

Small Reviews of Literature

When developing literature reviews, a researcher sets out to become thoroughly familiar with the body of knowledge available on a topic. Therefore, the sources should reflect high quality research. Why? High quality, logic-guided, bias-free research allows a researcher to get as close as possible to the reality of a circumstance.

The main purpose of research for most people of conducting research and literature reviews is ultimately to create positive long-term change. To do that, people need to understand reality. So, examining literature that provides quality, science-

based insights—by definition as unbiased and thorough as possible and reviewed by members of the field who require accuracy and exactness—provides the basis for developing a quality circumstance-based plan to create change.

What articles qualify as quality articles? That can be an easy question to answer, or it can be a hard question depending on the type of literature review you're creating.

Academic literature reviews. For academic literature reviews, quality articles are considered articles published in peer-reviewed journals. Peer-reviewed journals judge articles submitted to them blindly (without knowledge of the author's or authors' names) based solely on the quality of the research conducted and the conclusions drawn rather than based on who wrote them. Basically, journal staff members send three reviewers a blind copy of the article (a copy without the author's name on it). The reviewers read the article and, if it meets the journal's standards and is accurate, well-researched, and has sound conclusions, recommend it for publication. Such a judgment based only on the text and not on the name of the author ensures an objective evaluation of the article and, as a result, the sharing of quality information in the journal.

If you have access to a number of good-quality peer-reviewed articles, how do you decide which are most valuable? It depends in part on where you are in the research process. If you haven't decided yet which factors about your topic you're going to research, you can examine them all to identify what factors about the topic have been researched and what that research is concluding about the topic. To do this, you can conduct a good database search and review the abstracts of

applicable articles. That search can help you with brainstorming and with developing your preliminary outline. It can also help you identify some initial sources to read and consider. If you've decided which dimensions of your topic you're going to consider in your literature review (what factors you'll examine), you can look for articles about those dimensions.

Say the topic is the effectiveness of community volunteers in teaching HIV prevention to high school students. You've decided to explore two specific dimensions—students' attitudes about 1) instruction from volunteers versus instruction from paid health or education providers, and 2) the age or sex of the person providing the instruction. There might be three articles on the topic. A summary of them follows.

1. High school-aged students respond better to individuals who are contemporaries rather than people who are the age of their parents.
2. Volunteers prefer working with students who are attentive rather than students who are in cliques and talk throughout the presentation.
3. High school-aged students attend informational sessions outside the school environment less often than they do within the school environment.

Consider the relative value of these three articles.

1. The first article is directly related to the topic because it answers to whom high school students respond.
2. The second article is also related because it indicates that volunteers may treat students differently. This could affect whether or not stu-

dents respond better to volunteers than to paid professionals. The questions connecting these articles to the topic would be whether paid professionals respond to students in the same way and whether volunteers' feelings are identifiable by students.

3. The third article is not easily connected to the topic and questions being considered. To use it, you'd have to assume that they would respond well to meeting with volunteers better if they met outside school. However, that still doesn't really contribute to your understanding of the questions you've identified.

You will find many articles that you can justify as being related to your topic, if you wish. However, discussing those articles within your literature review will make it less focused and effective. The result can be a loosely related review with points that are not made well, if made at all. It will be a review that doesn't demonstrate your ability to create strong, coherent research and that becomes much longer than if you minimize the use of such articles with limited relative value.

Many researchers have found this aspect of creating strong literature reviews challenging. How can you use those articles at some point (because, after all, they were interesting enough to catch your attention) and still keep your literature review tight, cohesive, and focused? One common method researchers have developed is creating a file for them so the articles can be used at a later date or in other research—perhaps follow-on research. That way, the focus of the literature review stays intact but no interesting information ever goes to waste.

So, look for articles that relate directly to your topic and the factors you're considering about it. Remember, though, to think outside the box, so that you can gather as much applicable information as possible. This process of examining data about related or similar topics (for example, child discipline and adolescent discipline; corporate subdivision management and small business management; post-traumatic stress disorder anxieties and social anxiety) is called *mining the data*, as mentioned previously. It can prove particularly useful if there is limited data or are limited articles on your topic.

Related to the HIV instruction question, if *mining the data*, you may find information on students attending *career* counseling instruction from volunteers that will give you some insight into student participation. That article might also give you some insight into how students respond to volunteers and, perhaps, into to whether the specific age and sex of the people conducting counseling is important. So, you can gather information that is directly related to your questions but that doesn't necessarily appear to relate to your topic to the average reader, *if you're diligent about accurately presenting the information provided and its potential applicability to your topic*.

Finally, remember not to create too speculative a web of ideas (more than one layer deep of potential linkings or minings of data—if *this applies, then this might happen, which could also apply or if this might happen, then this might apply, which might also cause this which might apply, for example*—as you examine the literature. As you gather information that fits outside the box, make sure it does actually relate to your

topic directly or closely in some manner, and be careful not to strain that relationship too much. Why? Straining it too greatly by trying to create connections that many not actually exist can corrupt your research process and make your literature review ineffective.

Timeliness of Articles

One last consideration needs to be the timeliness of the articles used. The goal of a literature review is to examine *current* literature to find out the current state of the body of research-based knowledge on a topic. How much information is available on your topic, what's considered current by the people to whom you're accountable for your review, and how much groundwork you need to lay with older sources to allow people to understand the meaning and importance of your current information are decisions you'll need to make on a case-by-case basis. You can gain insight into how much background and the currency of articles required, though, from the sources used in recent articles, from researchers with whom you're working, or from your instructor or your thesis or dissertation committee.

Sometimes, there is no current literature on a topic. Your topic may be cutting edge, or it may be something that has appeared to be overworked in previous years and so hasn't been examined for a number of years. In such cases, older information is often the main source for a literature review. Thinking outside the box to gather important, appropriate information on the topic can also be a large focus in such a review.

Applied literature reviews. If you're developing an applied literature review, you can never go wrong using peer-reviewed resources similar to those

discussed above. However, you may not find an extensive number of peer-reviewed sources on your topic. Perhaps your topic involves legal precedents, statutes, or laws that have not been researched by academics. Perhaps it involves government or military reports that, again, haven't been scrutinized by academics. Perhaps it involves factors within your organization that are proprietary and not widely known

At some point, your literature review needs to be related to current research or thinking on your topic. If you can't find many peer-reviewed articles on your topic, you can use articles on similar topics, discussed above under *academic literature reviews* as *mining the data*. In addition, you can look at historical peer-reviewed sources on your topic or a related topic.

However, if there proves to be little peer-reviewed information on your topic, there is yet another possibility. As part of any person's review on a topic, some local sources will be used. These sources are not peer-reviewed. Instead, they are sources like newspaper articles, magazine commentaries, and journal and book sources. If nothing else is available, these sources can be used to provide information on a topic. ***However, these are not unbiased, objective sources. So, you will want to diligently mine your data*** for peer-reviewed sources that can help explain the topic, circumstance, event, or occurrence you're examining.

Remember, your goal is to be objective in your gathering and presentation of data. Using as much peer-reviewed data as possible and making the distinction in the text of your literature review that any local data you use is not objective and unbiased will be necessary to create an objective

presentation and objective conclusions. In addition, remember to weigh peer-reviewed literature more heavily in your examination.

Simple literature review. Again, as in an applied literature review, you can never go wrong with peer-reviewed sources. However, your topic may be so expansive and your treatment be designed to be so exploratory that you might choose to look only at popular literature on your topic. If that is the case, your sources would be newspaper articles, magazine articles, bulletins and reports published by interested individuals, and other common sources.

The use of these sources in an academic literature review would be solely to relate peer-reviewed information to the specific attitudes or circumstances surrounding a factor you're examining. So, when using these sources as the bulk of your literature review rather than additional information, the challenge will be to create as objective a picture of both the literature **and of your topic** as possible. Objectivity has been discussed, so you should be familiar with the concept at this point. Remember, it can be much easier to create objectivity with peer-reviewed articles, so if you are creating a simple literature review drawing on popular sources, you must take particular care to develop objectivity.

Practice

Using three research questions of your choice, review various abstracts for articles that discuss your topic. For this activity, you don't need to have narrowed the focus of your research or questions completely. Your goal is to see what peer-reviewed articles are available

on your topic, potentially to help you narrow your focus or better understand your topic.

Gain insight into what factors have been considered and what haven't surrounding your topic. Take notes on what has and has not been researched, as well as what is directly related to your topic and what is more loosely related to your topic.

Discussion or Writing Activity

Since you're beginning to look at quality resources for your topic, it's a good time to begin recording information in those articles for later use in your literature review. So, although your topic may not be completely defined, it will prove useful to begin using the forms supplied in the Appendix.

1. Download the Article Analysis Form and the Critical Thinking Chart.
2. Read articles for your literature review research, and take notes on those articles in the Critical Thinking Chart.
3. At this point, you can list articles as you read abstracts to understand the types of research available on your topics.

Although you will not use these forms as they are specifically designed to be used, using them as you start your research can help you keep your data organized and in one central location. This is an activity you should continue each time you read an article that may help with your literature review.

Other Resources

<http://www.languages.ait.ac.th/EL21LIT.HTM#what>

<http://www.lib.utexas.edu/lsl/help/modules/peer.html>

<http://www.lib.calpoly.edu/research/guides/peer.html>

<http://www.hsl.creighton.edu/HSL/Guides/Lit-Review.html>

http://info.wlu.edu/literature_review/library.html

Brainstorming: Factors to Consider

The focus of this chapter is the mechanics of developing an outline for your literature review. Before you can develop that outline, you need to do some brainstorming. To assist you in this process, here's a review of some brainstorming techniques.

Two popular methods for brainstorming are free writing and clustering. Examples of them follow. Although some people prefer to go straight to creating an outline as they plan their literature reviews, using these methods can help you have a more complete understanding of what factors to both research and include in your literature review while still in your initial research stages. This early focus can help you maximize the quality of your literature review.

Do you need to consider all the dimensions of, or all of the factors involved in, your literature review topic? No, you don't. Here's an illustration.

You're examining the impact of the use of democratic classrooms on teacher morale. Here are a

number of factors involved in democratic classrooms and differences in the characteristics of teachers.

1. Size of the classroom—large, small, medium.
2. Number of students—0-5, 6-10, 11-15, 16-20, 20-25, 25-30.
3. Openness of dialogue—always, sometimes, never.
4. Responses of teachers—open, closed, mixed.
5. Responses of students—active, grudging, none, animated.
6. Respect shown by students—sometimes, grudging, always, never.
7. Homework completed—never, sometimes, always, detailed, minor.
8. Amount of work that can be accomplished—scheduling, number students, etc.
9. Subject being taught—open to discussion, not open to discussion, physically oriented, academically oriented.
10. Age of the students—preschool, elementary, middle, secondary, adult.
11. Age of the teacher—early 20s, 30s, 40s.
12. Years of teaching experience—0-2, 3-5, 6-10, 11-20, and 21-30.
13. Background of teachers—urban, rural, strong family, weak family, good student experience, poor student experience.
14. Background of students—strong family, weak family, good supervision, weak supervision, physically active, not physically active, healthy, unhealthy.

15. Home life of teachers—good, bad, stressful, money problems, relaxing.
16. Home life of students—encourage school, don't encourage school, lots of activities, not many activities, lots of supervision, not much supervision, talk to parents, not talk to parents.
17. Courses being taken by students—large load, small load, difficult, simple, academic, physical.
18. Number of courses being taught by teacher—small load, moderate load, large load, overload.
19. Whether there are democratic classrooms and undemocratic classrooms in school—examples from other classrooms, no examples, stress between teachers and in classrooms because of differences in treatment, etc.
20. What impacts teacher morale—fulfillment, ease of work, excited students, etc.

Examining this list, it's obvious there are many different possible circumstances to consider when examining the impact of democratic classrooms on teacher morale. How many of these are important? How many should you consider? Should you consider them all?

The reality is that you could never finish your work if you considered every variable—unless you wanted to spend years preparing to write the literature review. Even then, you'd barely be able to complete your evaluation of every variable. What's worse, you'd find yourself forced to begin re-researching your topic again almost immediately because, even as you evaluated existing research, new literature based on new research was being created.

So, what should you examine? What variables are most important to your specific situation, your specific area of interest, or your specific circumstance? If you're interested in an urban setting, then maybe you don't need to worry about rural information. If you're interested in at-risk youth, do you need to consider articles about students who are happy, have strong home lives, and are doing well in school? They can provide a good contrast with students who experience the opposite. However, **if** your articles on at-risk youth contain comparisons and contrasts surrounding at-risk and well-adjusted youths, *you don't need to review materials on "well-adjusted" youth, do you?*

How many factors should you choose? There is no solid, specific answer to that question. That decision will be dictated in part by the type of literature review you're developing—simple, applied, or academic. It will also be partially dictated by the amount of literature there is available on your subject. If you used the practice activity in the previous section of this book, you've gotten at least a sense of what's been researched on your topic. That can help you consider what you wish to research. Determine realistically which factors are most valuable in gaining an understanding of your topic. Remember, also (as this list earlier demonstrates), that narrowing your focus and being specific about your interests and the goals of your research are very important to your success.

Brainstorming. As you consider what dimensions of your literature review topic you're going to examine while using this book, try both free writing and clustering brainstorming methods. Sometimes, a two-step planning process—free writing and then clustering the ideas generated in free

writing—can help people decide both what to include in the outline and where to include it. As you work through this book, take the opportunity to see what works best for you.

Free writing. To illustrate this brainstorming method, here's an example of using free writing. The topic in which you're interested is the potential usefulness of adapting a management training program used by Fortune 500 companies for teachers. The question could be: What impact would the use of a Fortune 500 management training program have for training teachers? Here are your free writing steps:

1. With plenty of paper and a pen in hand, find a quiet place to consider the question.
2. Set aside a specific amount of time to consider the question with a minimum of 3 minutes and a maximum of 20 minutes being reasonable. (There will be a point in time when your mind wanders, so you'll need to get a feel for what length of time you can maintain your focus. You also need to do this at a time when your mental distractions will be minimal.)
3. Write down every thought that occurs to you in relation to this question, whether it seems initially important or not. Your thoughts don't have to be written in complete sentences as long as can be understood when you review them later.

Your results might look like this:

1. Teachers' students are like unmotivated employees
2. Managers, teachers need to instill self-motivation, self-monitoring

3. Depends on age of child—young maybe, older yes
4. Difference in measures of success teachers/managers need to be considered
5. Does type of work environment matter to management training program/students?

As you can see, the ideas jotted down aren't all following one logic path. They aren't even complete sentences, unless having complete sentences becomes important to understanding them later. The benefit of this open brainstorming that doesn't follow a specific logic path is that it leaves you free to identify the many directions in which you may need to go. Remember, this is a preliminary activity, so this exploration of many directions is essential to you identifying any and all directions you'll need to pursue in your literature review.

In addition, each of those directions, or development paths for your factors, can be free-written in their own free writing activities to help you develop a deeper examination and, eventually, deeper understanding of your factors and their importance to your topic. Each successive free writing activity can be considered a new layer of understanding of the factors and subfactors related to your topic. *However, you don't want to create too many layers of free writing, because this is still your consideration and speculation stage.*

The ideas jotted down in this or these free writing activities can be used to develop clusters using the clustering activity that follows. If you choose to bypass the clustering process, they can become the factors used to develop your outline, if you've gotten enough ideas to flesh out your literature review. If you have only a few factors identified for

inclusion in your outline, though, the clustering method is probably a necessity for fully developing the factors you must consider to produce a quality literature review.

Clustering. Clustering is a second strong, useful brainstorming technique. As you read the section on free writing, it might have been obvious why researchers often use clustering free writing. Free writing can help people generate a lot of ideas, but they are random and often unconnected. Since the goal is just that—the generation of ideas great and small—successful free writing can be unorganized and feel chaotic. So, clustering can help sort those ideas and extend the consideration of factors researchers will benefit from analyzing.

As with free writing, you will have to identify which of these planning methods, or both, is useful in developing your work literature review outline. Here are directions for clustering.

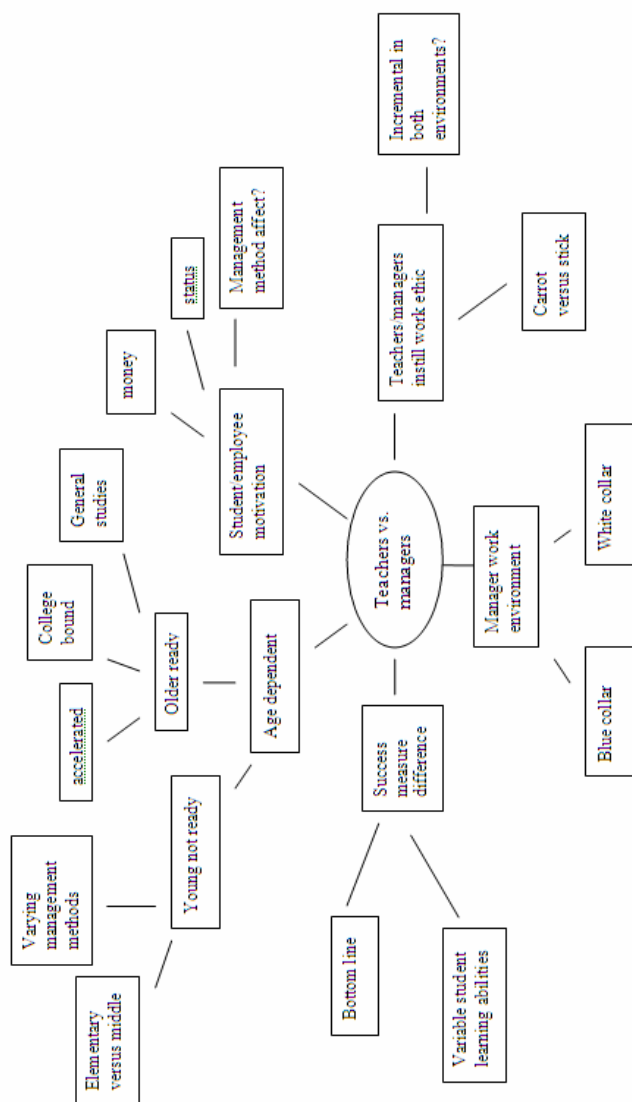
1. With plenty of paper and a pen in hand, find a quiet place to consider the question.
2. Set aside a specific amount of time to consider the question with a minimum of 3 minutes and a maximum of 20 minutes being reasonable. (There will be a point in time when your mind wanders, so you'll need to get a feel for what length of time you can maintain your focus. You also need to do this at a time when your mental distractions will be minimal.)
3. Write down every thought that fits into clusters in relation to your question, whether it seems initially important or not. It helps to express thoughts in short, self-designed abbreviations, as long as they can be understood later.

For this activity, you:

1. Draw a circle in the center of your paper.
2. Write a couple of words inside the circle that act as an abbreviation of your main question.
3. Draw a short line out from your circle and, at the end, jot a specific idea you have. Each of your thoughts will be extended out of your circle using a different line. Eventually, your circle will appear to have a series of spokes extending from it, similar to the spokes extending from the center of a bicycle wheel.
4. After identifying those spoke points on the circle of your central identified question, draw lines out from those points to identify the next layer of analysis you can consider about your main question—the analysis of your *spoke* points.

This process can continue—with more and more layers of analysis being formed—for as long as continuing to expand the cluster to develop your literature review proves helpful. For a small literature review, these layers of depth will be much shallower than they will be for a dissertation.

For the following example, the question is: What impact would the use of a Fortune 500 management training program have for training teachers? For the purposes of spacing, this will use the abbreviation *teachers/managers*. A basic clustering of the topic follows.



Again, if you're using the clustering activity to build on your free writing activity, you can use this chance to cluster the ideas you developed in your free writing activity. You would do this by making your free writing list some of the spokes on your wheel as you cluster. This lets you take your analysis to deeper levels than identified in initial free writing activity. That activity is demonstrated in the illustration on the previous page.

If you're better at using free writing or even going straight to an outline, then you might skip these brainstorming steps. However, you might give these both a try during the activities following this lesson so you can decide which you prefer.

Once you've got a clear idea of the factors and subfactors involved in the topic or question you're considering, you can return to *The Literature Review Process* section of this book to consider the questions you've asked. As you complete your planning, remember to narrow your topic so that it's manageable and relevant to your overall question or questions.

Note: If you use these two planning activities in sequence, you will benefit from taking a time break between these two activities. That break will give you a chance to return to your ideas with fresh thoughts. You might find yourself expanding your initial list of ideas and, as a result, getting a better quality plan for your literature review.

Practice

Take 3 questions of your choice, and narrow them as much as possible. Use free writing with one question, clustering with the other, and

both with the third. See which one is more comfortable for you.

Writing Assignment

The goal of this book is to learn to develop a literature review. To develop your literature review, you'll use articles in various databases and from libraries to which you have access. In this writing assignment, you will declare the topic you've selected to examine in your literature review.

Write a 250-400-word description of the literature review you propose to develop. Be sure your description includes/ addresses the following:

1. What question are you researching?
2. Why did you select this question? That is, what is your reasoning in selecting this question, and why is the question important?
3. Having used the free writing or clustering method to identify them, what factors (the spoke points surrounding your central question if you used clustering) must you consider to create an objective literature review?
4. Since you cannot consider them all in your literature review, select the about your question you're going to examine in your literature review. What are they, and why did you select them?
5. Using the clustering method again, what subfactors do you need to consider about those four or five factors you selected in Question 4 to create an objective examination of those Question 4 factors?

6. What sources will you use to begin your literature review?

Be succinct. Specificity and brevity are important when you write a literature review.

Other Resources

http://web.umn.edu/~gdoty/classes/concepts-practices/free_writing.html

http://writing2.richmond.edu/writing/www/free_write.html

<http://www.humboldt.edu/~tdd2/Freewriting.htm>

<http://www.sdcoe.k12.ca.us/SCORE/actbank/tcluster.htm>

<http://www.graphic.org/goindex.html>

http://www.unc.edu/depts/wcweb/handouts/literature_review.html

<http://www.libraries.psu.edu/instruction/infolit/1st301h/condlitsearchrev.htm>

<http://www.libraries.psu.edu/instruction/infolit/1st301h/condlitsearchrev.htm>

Creating an Initial Outline for Your Literature Review

Over the years, a number of writers have said they don't write their novels and stories. Instead, their characters write them as their stories evolve. They, as authors, don't find out who "did it" until they write those last words. If there are authors who really use that organizational style, their style is not the style you will use in planning your literature review!

Before beginning this consideration of the importance of outlines, it's necessary to make an unequivocal statement. *A literature review outline should be a living organism that is given the same consideration as any pet or honored member of the family. As a family member, your literature review needs to be fed, groomed, and given attention often.*

That said, one of the easiest ways to organize a literature review is to use an outline. Most people have seen the classic outline format. In case you haven't, though, a sample will be presented shortly.

Getting ready to write the outline

Before beginning to write an outline, you may have read some information about your topic. Your sources might be peer-reviewed or not peer reviewed depending on your topic, your type of literature review, and their availability. However, if you haven't read much about your topic and your free writing or clustering doesn't contain much detail, consider visiting an academic library (college or university library) or an online academic database to search for articles about your topic. It's hard to create an outline for a topic without any knowledge of that topic. A strong search on your subject may give you new ideas to add to your research plan.

What the outline looks like

The outline starts with main headers, which equate to Level 1 headers in APA-style papers. The first subheader equates to a Level 2 header in APA-style papers. The next level equates to Level 3 headers, and the next, or final level, would equate to paragraph headers.

A moment about APA standards

Why is APA format mentioned here? It is the accepted academic writing standard in most social science disciplines, so it is used throughout this book. If you're using Strunk or another standard, please follow the requirements established for you. Note that different academic organizations, like the American Sociological Association for example, can have different writing standards, so it's important to check the standards you need to use. Regardless of style, however, outlining as a pre-literature review tool will still be important.

So, what do you put into your outline? Here's an example based on the teacher turned manager idea used previously.

1. Introduction
2. Topic question
3. Why important
4. A Comparison of Roles
5. Discussion of nature of teacher
 - a. Smith (1925, p. 23)—teacher caregiver
 - b. Jones (2000, p. 25)—“a teacher is perceptive and interceptive”
6. Discussion of nature of manager
 - a. Abercrombie (2003, p. 423)—manager mentors successful employees
 - b. Fitch (2004, p. 78)—manager most responsible for business success
7. Similarities in roles
 - a. Both manage the environment
 - i. Jefferson (2004)
 - b. Both are role models
 - i. Jackson (2001)
 - c. Both are held accountable for outcomes
 - i. Irving (2004)

8. Differences in roles

a. Importance of differences in age

i. adult versus child

1. Jackson (2001)
2. Jefferson (2001)

ii. teenager versus child

1. Brown (2000)
2. Barton (2006)

b. Importance of differences in types of management

i. factory versus school

1. Breakman (2006, p. 26)—“modern school is like a factory”

ii. office versus school

1. No one yet???

Notice that there are authors listed throughout this outline. If you’ve conducted an article abstract review, you’ll probably have some idea of not just a number of the points you’ll make in your literature review. You probably also have an idea of the articles you can use to discuss those points. If you haven’t, you won’t. That’s why conducting at least a preliminary abstract review can prove so valuable before creating your outline.

If, as you continue to research your topic, you still find no research on a point you’ve brainstormed and outlined because you consider it important to your literature review, don’t remove that point from your outline. It’s still important to mention it as part of your review. However, rather than including research on that point as part of your dis-

cussion, you state the point should be examined in future research to determine its importance for understanding your topic.

It's important for you to demonstrate you've considered your topic thoroughly enough to include all factors in your literature review, whether they're well researched or not. It's also important to identify any gaps in the research, because knowledge gained about those gaps in the future may impact the validity of the conclusions you draw based on the literature review product you're creating.

As illustrated here, the outline also can include some quotations and some ideas that jumped out to you as you reviewed articles and other research sources. You can streamline your writing process by jotting down ideas developed during your reading as they occur to you for two reasons. First, you won't forget any insights that might occur to you as you research because they'll be integrated into the proper position in your literature review before you begin your first draft. Second, you'll differentiate quotations from paraphrasing before writing by placing quotations in quotation marks from the beginning. This method of documentation of quotations helps you ensure you won't inadvertently plagiarize any quotations, which can destroy your credibility.

Your outline or notes about the articles you'll use may not look the same as the sample outline provided here. Perhaps you'll write sentences in your outline instead of using header titles. If you do, those sentences could end up being the topic sentences used in the introductory paragraph of a section of your review, or they could end up being the topic sentences for paragraphs within those sections. Perhaps you'll put more detail into your

outline, directing yourself to separate pages that contain more detailed descriptions of points and subpoints rather than listing them in one large document. However you construct your outline, though, remember it is a living document. It should change, grow, and adapt to what you learn as you conduct more research and successive drafts of your literature review. (And your literature review, as a living document, should be created through the development of a series of drafts until you've achieved the quality review you wish to create.)

Practice

Choose one of the questions you used for your brainstorming. Review those brainstorming notes, and create an outline. If you need to, visit an academic library or online academic database and review the abstracts of peer-reviewed journal articles on your research topic to gain additional ideas on topics that should be discussed in your literature review.

Discussion or Writing Activity

Produce a 2-4 page written synopsis of your outline. Make it as exact and succinct as possible. This written version, in conjunction with your outline, allows you to conceptualize more clearly your literature review as a whole, what it will include, and how it fits into your overall research or project development agenda. Remember, you're creating a living document here. Treat this development as such.

Other Resources

http://www.library.unsw.edu.au/~psl/itet_lilt/lit_review/litrev3.htm

http://www.unc.edu/depts/wcweb/handouts/literature_review.html

Types of Article Examination Used in a Literature Review

Regardless of the purpose for or type of literature review—simple, applied, or academic—all literature review developers are researchers. As such, they all need to adhere to the strict requirements expected of researchers. Such strict requirements (rigors) include objectivity, appropriate thoroughness, and the application of and written presentation of sound critical thinking methods. This chapter gives a basic overview of the critical thinking methods all researchers apply when developing a literature review.

One of the most common problems people conducting literature reviews have when just beginning a literature review process can be writing what is essentially a report of the literature. The purpose of a literature review is to critically consider the strengths and weaknesses of the information on a topic rather than to report on what others believe or what has historically occurred related to a specific topic. So, as you develop your literature review, guard against a tendency to report. Instead, consider the relative

value of what you're reading to both your topic and the specific aspect of that topic you want to examine either for your assignment, your project, or your study.

There are a number of names for the six types of higher order thinking skills used within literature reviews. They are analysis (sometimes called evaluation or examination), comparison, contrast, synthesis, integration, and evaluation. An examination of Bloom's Taxonomy, easily search on the World Wide Web, will illustrate this point. At times, other skills or skill titles are indicated or used in the taxonomy. However, they can be distilled into the skills discussed here.

Please note that, although there are several names used to refer to each of these skills, the term *analysis* is most often used and, in fact, overused. Not only does *analysis* refer to a specific skill, it's also a term used to refer to the whole group of skills that allow academic examination of a topic. So, in this book, I've made every attempt to avoid the confusion that can occur as a result of that overuse.

Often comparison and contrast are considered one analytical method, as are synthesis and integration. However, I address them separately in this book. Why? When done properly, they both look and act differently from each other. Although comparison and contrast complement each other, as do synthesis and integration, when people do not understand and execute each correctly, they can examine their information incorrectly. The result, then, will probably be an ineffective and potentially inaccurate literature review.

The six skills discussed in this book work together to help people develop a strong assessment of the

strengths, weaknesses, and applicability of different articles and other resources to the overall understanding of their topics. For you, they will become a cornerstone of your ability to develop strong literature review. They will also help you identify the knowledge available about a specific topic. Although the book pulls each of these skills apart in future chapter, examining examples of each, here is a brief overview of these skills and how they fit together.

Analysis is the first and most basic consideration of literature that researchers perform. In it, they examine the nature and quality of the article itself. What are its basic assumptions, and are they sound? What is its structure, and does it present information clearly enough to be sure the study and the researchers' conclusions are sound? What evidence does it provide? Is that evidence appropriate and accurately used? What data was acquired during the research? Are they appropriate to the method used and the questions that were researched? What conclusions does the author draw from the research? Again, do they appear appropriate to the questions asked and methods used, and do they appear reasonable? What logical implications do the conclusions have? Is there any piece of the information presented or method presented that makes you uncomfortable or uncertain about the accuracy of the results and conclusions?

Why do researchers ask these questions? When they analyze (review, evaluate, consider, examine) an article, they look at its basic integrity. For you, this means that if you examine an article summarizing a study, for example, you consider such factors as the nature, size, and quality of the sample group used. You also examine whether research conducted was done and presented cor-

rectly, whether the conclusions drawn were appropriate and accurate based on the methodology used and data gathered, and whether the new information generated by the research was integrated correctly into the body of knowledge. For a review or summary of literature, you look at the quality of the research used, whether the research used was presented accurately, and whether the conclusions drawn were appropriate for the research examined.

That makes analysis perhaps the most important type of research examination method. Why? This analysis can help you identify whether the article or source has any value to your literature review at all, whether its value is limited only to being mentioned as a piece of related research, or whether it should be examined further using the other evaluation methods discussed here.

Comparison and *contrast* go hand in hand, as mentioned earlier, but it's important to conduct comparisons first for reasons that are described later. A comparison is an examination and discovery of patterns of similarity within two or more articles. Similarities can occur in any of the major characteristics of those articles—basic assumptions or frameworks for the studies presented, methods of structuring the studies, data acquired during the studies, and conclusions drawn from the studies. More areas of potential similarity will also be discussed later. However, identifying similarities can help you as consumer evaluate the strength of the conclusions drawn. Again, this will be discussed more later.

Contrast serves as a corollary to *comparison* because it's an examination and discovery of differences between two or more articles. The areas examined to determine differences are the same

as those examined to determine similarities. As you might guess, when conducted either separately or simultaneously, these two activities can help you understand different researchers' specific contributions to the body of literature about your topic. This in turn can help you further understand the strengths, weaknesses, and relative importance of different researchers' work and other articles and sources you might examine.

Evaluation requires using a different perspective to examine the value of specific research and data. It means considering the contents of an article, especially the impact of the conclusions that article presents, in relation to your specific topic.

In any literature review, an *evaluation* proves valuable, but in a dissertation a strong, comprehensive *evaluation* of available data proves essential. Why? Since an *evaluation* considers how strong some evidence, conclusions, and implications are in relation to your specific topic, it tests the accuracy of the information being applied. In the case of a dissertation, part of the justification of the research being proposed is how it will help understand and, potentially, improve some part of your topic. *Evaluation* is an integral part of creating that bridge between the research conducted by others and the research you want to conduct.

Synthesis is an important part of creating the framework used as the rationale of a study. It requires identifying analytically valid parts of various articles that agree and support each other. For example, say the following articles by the following people actually exist. *Smith (2001) presents research on managers' expectations of their employees, and Jones (2003) presents research on the impact of managers' styles in times of stress.* Although not saying exactly the same thing, their

research and conclusions do not disagree with each other. In fact, when their research and conclusions are blended together, they complement each other and create a more complete picture of what occurs in management environments than people could gain from either article separately.

This information can be combined with *fictitious research from Abercrombie (2005) on managers' leniency during regular working periods and Fitch's fictitious research on different responses managers have to employee attitudes*. When combined, each of these articles contributes information that helps people gain a clearer understanding of the management environment and what it can mean in relation to your topic, assuming your topic is management styles.

Integration is the corollary of *synthesis*, just as *comparison* and *contrast* are corollaries of each other. In *integration*, the *disparities* between various results and conclusions are explained to effectively present a more complete view of your topic. Just as *synthesis* meshed compatible research about different aspects of a topic, *integration* meshes apparently incompatible research about different aspects of a topic. Because this can be hard to conceptualize, here's an example.

Jones (2003) conducted a study indicating that junior mid-level managers facing audits become highly stressed and less tolerant of employee behaviors they might otherwise tolerate. Smith (2004) found the opposite. His research indicated junior mid-level managers facing audits received enough support from seasoned managers to avoid becoming stressed. However, his research also indicated that each of the organizations he examined had strong training programs, including active mentoring, something

that Jones (2003) did not discuss. It appears, therefore, that mentoring programs may reduce the stress levels of junior managers when facing stressful circumstances like audits or similar senior-level monitoring. Further research to clarify this possibility would be useful.

This is just a rough idea of what integration looks like. Again, I'll go into more detail about it and the other examination methods you'll use in coming sections of the book. Notice, though, that integration is identifying how disagreeing pieces of research can combine to complement each other.

Together synthesis and evaluation—themselves developed based on analysis, comparison, contrast, and evaluation—create the framework used to understand your topic. They help you identify the importance of, potential effectiveness of, and relevance to your topic of any information researchers present. They create a framework that, when well developed, allow you to produce a quality literature review. When poorly executed, your literature review can be both irrelevant and inaccurate.

To assist you in this process, examine Appendix A. It contains a form you can use to chart the information gathered from each article. It also contains a form you can use to evolve comparisons and contrasts, syntheses and integrations, and evaluations from the information you gather.

Practice

Consider your topic. You've created an outline. Can you identify some locations in your outline where you anticipate comparison and contrast of various articles or points of view might be useful? Will synthesis and integration benefit

your review? What can you use to evaluate your topic? Remember, the ideas in your outline are still preliminary, but periodically re-examining your thoughts can help you to continually flesh out and re-evaluate your outline and your literature review's content.

Based on your research and the information included in this book, create an outline for yourself that includes areas you need to consider as you analyze the integrity of the articles you review.

Discussion or Writing Activity

You've created a narrative about your plan for your literature review. Revisit that narrative. Consider where in that narrative you're describing analysis, comparison, contrast, evaluation, synthesis, and integration. Revise your narrative to include the appropriate terms. Consider also where you might introduce additional analyses, comparisons, contrasts, evaluations, syntheses, and integrations that will prove useful for examining your topic. Include those new points in both your narrative and your outline.

Other Resources

<http://www.utoronto.ca/writing/critrdg.html>

<http://www.coun.uvic.ca/learn/program/hndouts/bloom.html>

<http://www.coun.uvic.ca/learn/program/hndouts/bloom.html>

<http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/questype.htm>

<http://www.ceap.wcu.edu/Houghton/Learner/Think94/NCmarzanoThink.html>

<http://www.ceap.wcu.edu/Houghton/Learner/think/compare.html#Triggers>

What is an Analysis?

As mentioned in the last section, an analysis is not a report of what an author or authors think. It is, instead, a critical consideration of what they've said. An analysis (or evaluation, or examination, or consideration), as mentioned earlier, is an examination of the *integrity* of an article. It answers questions like: Is its foundation solid? Is the study it presents valid? Are its results accurate and appropriate? How much value, if any, can you attribute to its conclusions? A list of questions to consider as you determine an article's integrity follows.

1. Is the logic behind the study sound? (Does it have a solid theoretical framework?)
 - a. Are the literature sources upon which the research design is based sound?
 - b. Are the literature sources interpreted correctly by the author in the process of laying the ground work for the study?
 - c. Is the presentation of those sources unbiased, or is it skewed because

- d. opposing views and perspectives aren't considered enough?
- 2. Is the question being examined sufficiently narrowed and able to be tested accurately?
- 3. Is the research design appropriate for the question being examined?
 - a. Is its methodology appropriate for examining the specific question being considered?
 - b. If it's a question about a causal relationship, is it an experimental quantitative design?
 - c. If it's not a causal study, is the design appropriate?
 - d. Does the design actually address getting answers to the questions being asked?
 - e. Is the sample size large enough?
 - f. Is it a biased sample?
 - g. Is it the wrong type of sample?
- 4. If an article is not a report of research, are quality resources used in the creation of the article that are treated in an unbiased manner?
 - a. Are the sources sufficient and rich enough to draw the conclusions drawn?
 - b. Is enough detail provided about those sources for you to draw your own conclusions? (If not, you need to examine the original articles yourself if you want to use the article you're reading.)

- c. If the article is exploratory in nature (designed only to consider possibilities and not draw conclusions), does it consider enough possibilities to be unbiased and effective?
- 5. Do the data as reported appear to have been appropriately interpreted?
- 6. Are the conclusions that were drawn appropriate for the design and the data collected?
 - a. Does the author appropriately identify limitations on the generalizability and character of the conclusions?
 - b. Are the conclusions specific and clear?
- 7. What are the credentials of the contributors?
 - a. Is the author a Ph.D., or does the author have credentials in the field?
 - b. Does the author use quality sources to establish the argument presented?

Analysis of an article doesn't involve determining whether the article is of basic use to you. If an article doesn't fit your topic, you can rule it out immediately. Sometimes, articles you later determine have little integrity are still useful for your literature review. Why? They may introduce a factor or perspective about that factor you should include in your review, *or* perhaps they should be included in your review for no other reason than to ensure you've been thorough in your review of the literature on your topic. However, once you

decide to use an article in your literature review, analysis can tell you about that article's quality and integrity.

Here's an example of an analysis:

Smith (2004) determined that there is a correlation between teenagers' consumption of higher amounts of coffee and their tendencies toward the demonstration of Attention Deficit Hyperactive Disorder. However, his study participant selection method was neither random nor representative of varied demographics. His group was drawn from students in three classrooms at one inner city high school. In addition, he gathered no additional information about other characteristics in the lives of students who did and did not drink caffeine, and he did not gather information on other caffeine sources students may have consumed. He did not include any information on a level of correlation. His method of defining a higher amount of caffeine was not included. His data provided little solid research evidence, but it did raise a question that merits further consideration.

Here's a second example of an analysis, this time a positive analysis of the article:

Smith (2004) examined a potential correlation between teenagers' consumption of caffeine and their tendencies toward the demonstration of Attention Deficit Hyperactive Disorder. In a detailed analysis, he considered the numerous sources of caffeine that can be consumed, and developed a Likert-style scale to consider levels of caffeine consumption. After conducting a complete correlative analysis, he demonstrated a preliminary correlation between these two circumstances. However, he pointed out that his

study sample was not large enough to establish any definitive correlations between the two, and he suggested this matter bears further examination.

Normally, as mentioned earlier, if an article has no integrity or value, it will appear in a literature review only to demonstrate that the possibility, results, or conclusions were considered. That presentation allows you to either recommend further consideration of the possibilities presented in future research or allows you to eliminate the possibilities presented as irrelevant or unimportant. Either way, though, presenting such an article in your literature review can indicate your examination of your topic was as unbiased and objective as possible, which in itself is important. Without a discussion of such articles, the literature review could be considered incomplete because a perspective, possible explanation, or even a mitigating factor can appear to have been ignored. As a result, the inclusion of such an article analysis can be integral to a quality literature review.

Some articles, although they have no integrity, suggest a potential correlation (or relationship between two different factors related to your topic) that should be considered to completely understand your topic. An example of that type of article is shown in the first analysis paragraph. One such article might explain a study where the data collection or sample was minimal, but the importance of examining the article's topic fully might be important.

An example might be a study on why people chew gum. One author's research might focus on a possible correlation between gum chewing and slowed heart rate as a result of diminished anxiety. Although the author used a small sample from which

no conclusions might be drawn, the fact that one individual mentioned that possibility can be important to pursue at a later time and might mitigate the results you determine in your own study of the relative strengths and weaknesses of gum chewing.

Note that all of the article's shortcomings are listed. If some portions of the article were strong, they would also be mentioned. However, the overall value of the article would be limited to it providing some information or ideas to either examine in other sources or mention as a potential factor that requires further research.

Other articles present good information and include an acknowledgement of their limitations and value. The analysis of such articles would be explained within the literature review and might look similar to the paragraph presented. Remember, these articles need to be presented objectively, including their value to your review.

Practice

Use the materials provided in the Appendix and the analysis questions presented in this section to create an outline that includes the important points you'll present for your analysis of the articles you've selected for your literature review. Determine whether your articles have integrity.

Discussion or Writing Activity

Draft a simple, clear, succinct analysis of at least three of the articles you've analyzed. Explain where they have integrity and where they don't.

Other Resources

<http://www.library.cornell.edu/olinuris/ref/research/skill26.htm>.

http://www.waldenu.edu/c/Students/CurrentStudents_7398.htm;

http://www.library.unsw.edu.au/~psl/itet_lilt/lit_review/litrev5A.htm

Creating Structure for an Analysis

Normally, although an analysis may present some summary of the article's information, in essence it discusses the article's integrity. As such, it presents an assessment of the article's major characteristics that readers can use to understand the article's importance to the topic you're discussing. It does not, however, include extraneous, or extra, information that will not add much to your readers' understanding of the important point you're trying to make. When preparing a first draft of analyses of articles, this can often be a problem for even a seasoned literature review writer. One way to guard against that is to use the article analysis form provided in the Appendix of this book.

Here's how an analysis of an article on parental participation in students' school experiences might look.

Thompson (2003) conducted a study on the participation of third grade students' parents in three middle-income elementary schools, inter-

viewing 30 parents in each school. Based on those interviews, he concluded that parents who received papers suggesting parent participatory activities from teachers at least twice a week were more involved in PTA, in classroom activities, and in working with their children on their homework assignments (p. 23).

However, Thompson (2003) either did not gather demographic information on the individuals he interviewed or did not disclose that information in his article. In addition, he did not state how or where he acquired his randomly selected participants. As a result, there is no information either on the ethnicity, sexes, or employment status of the individuals interviewed. Therefore, it is impossible to determine whether the sample group and, as a result, the conclusions drawn in the study may be skewed.

Note that the first paragraph contains a quick summary of the information presented in the article. Note also that it presents a brief description of only the most important information related to your topic.

In contrast, the next paragraph presents the analysis, again briefly presenting only the most cogent information. It discusses the strengths and weaknesses of the article, the size of the samples used and conclusions drawn in the study it discusses. It considers the research the article cited to create its own literature review and whether that information is important to understanding the article itself. It also discusses any other considerations related to the article's integrity and importance to your study.

If this discussion were continued, the next paragraph might discuss the choice of third grade

students and question what age would be optimal for this type of technique. An additional paragraph might discuss what types of materials would bring about optimal parental responses. The final paragraph might consider whether, even though specifics that would allow complete understanding of the study's implications are absent from the article being examined, a further examination of this type of parental interaction process bears consideration. Each of these paragraphs contributes to your thorough presentation of the analysis of the article and its importance to your topic.

To summarize, here's a brief outline of what the presentation of an analysis could look like. Remember that which paragraphs from this list you include in your analysis will depend on the integrity of certain parts of the article and on your specific interest in the information presented in the article. You do not need to have all of these paragraphs in your analysis to make it effective. Include only the paragraphs that are integral to presenting your logic—that help your reader understand your conclusions about the article. As pointed out earlier, sometimes selective minimalism can help you develop the strongest analytical presentations.

1. A paragraph that includes a brief summary of important characteristics of article.
2. A paragraph that includes analysis of the strengths and weaknesses of the article.
3. A paragraph that includes a consideration of the potential appropriateness of some of the characteristics of the study's design.
4. A paragraph that includes a consideration of the importance of the size and composition of

the sample discussed in the article in relation to your topic.

5. A paragraph that describes any of the other characteristics considered in your analysis of the article in relation to your actual topic.

So, an analysis doesn't have to be fancy. It doesn't have to contain a lot of details. It does have to be succinct (not cluttered by information that is interesting to the discussion but unimportant to understanding the aspects of your topic relevant to your focus), specific, and thoughtfully prepared, and it does have to help the reader understand why and how an article is both useful and trustworthy.

What if you don't want to have separate paragraphs for each of the analytical points you want to share about an article? At times, an analysis can be incorporated into a comparison or contrast of two different articles. Although comparison and contrast have not yet been discussed, here's a brief fictitious example of such an incorporation of an analysis.

Smith (2005) found that tea from China was more expensive as a result of the Tea Revolution of 2003, while Jones (2006) determined that it was the result of large tariffs imposed by the United States in 2004 to make United States tea growers' pricing more competitive. However, Jones' results were gathered using a small interview sample, and few details were provided on the method Jones used for the selection of interviewees. Therefore, Jones' information has limited value for understanding the phenomenon.

As you can see, there are several structural methods you can use to organize and present your findings. These different methods will be dis-

cussed more later. For now, remember that somewhere paragraphs have to include the points mentioned above.

Practice

Choose one of the articles you've analyzed for your literature review. Draft an analysis using the pattern outlined above.

Discussion or Writing Activity

Review the article analyses you wrote. See whether they follow the format described above. If not, restructure them to make them most effective. All of the information on one article can be presented in one paragraph if there's little to say. Remember, though, that volume of material you may need to share may take several paragraphs. Adjust your writing based on what you now know.

What is a Comparison?

A comparison is a part of your research process that allows you to begin your definition of the characteristics of your topic from a research-based perspective. Through the process of considering the aspects of your topic researchers have found similar, you begin to gain a larger picture of your topic. Multiple people with a background in conducting scientific examinations of your topic provide multiple perspectives and multiple methods of examination of your topic. If they find similarities, those similarities can provide a corroborated, stronger picture of its nature. So, understanding both the nature of a comparison and how it looks as you write it are very important to the success of your literature review.

As with every facet of your literature review, the amount of research-based literature used depends on two variables—the type of literature review you’re writing and the availability of research-based literature on your topic. However, regardless of the amount of research-based literature available, your goal is to utilize unbiased literature to determine those characteristics of the factors you’re considering about your topic that

don't change—those characteristics that are in some way or another similar.

A comparison is decidedly different from an analysis. Remember, an analysis examines the integrity of a specific article, while a comparison considers the similarities between two different articles to see whether they support or reinforce, each other. This is important, because similarities tell you that specific factors about your topic are the same from one study (or situation or example) to another. That means that, as you describe your topic, you can reliably report on the nature of that factor in relation to your topic, what it means to your topic and what occurs regarding it in relation to your topic.

Comparisons can consider a number of types of differences:

1. If what is being examined is articles presenting studies:
 - a. Similarities in theoretical frameworks (logic, research, and rationale behind the position taken and the research question chosen).
 - b. Similarities in research limitations.
 - c. Similarities in research assumptions.
 - d. Similarities in research design.
 - e. Similarities in research study samples.
 - f. Similarities in research results.
 - g. Similarities in research conclusions.

2. If what is being examined are articles presenting surveys of literature or consideration of phenomena:
 - a. Relevant similarities in histories.
 - b. Relevant similarities in culture.
 - c. Relevant similarities in religion.
 - d. Relevant similarities in accepted or valued morals or ethics.
 - e. Relevant similarities in conception of success and failure.
 - f. Relevant similarities in ages of relevant entities (individuals, organizations, governments, etc.).
 - g. Relevant similarities in location (characteristics, etc.).
 - h. Relevant similarities in resources or geography that could be relevant.
 - i. Relevant similarities in involved power structures.
 - j. Relevant similarities in any other area that becomes apparent through your reading.

In other words, the similarities can be structural (theoretical frameworks, research design, limitations, environmental, etc.) or substantive (results, conclusions, perceptions, goals, ages of individuals, etc.).

What you do not want to do as you develop this comparison is to focus on characteristics of the articles themselves. Sometimes, people will compare and contrast the formatting of an article—which sections people did or did not include or in what order—or the history or characteristics of the author. For the most part, if an individual has

an article published in a peer-reviewed journal, that article's author should be considered someone whose information is worth reading. Keep in mind that the great researchers of today were once less known researchers. As they say, everyone starts somewhere. During your development of your comparison, though, the most important non-comparison point to remember, though, is not to focus on style of writing or formatting. Those types of similarities are irrelevant. Focus on content and substance, instead.

What does a comparison look like? Read below:

Similar to Jones (2006), Smith (2005) examined the reading performance of a group of 2nd grade students in an urban setting to determine the impact of a 90-minute reading block on students' performance. Although Smith examined 1st grade students, both examined randomly selected classrooms from randomly selected schools, one group using a 90-minute block and one group not using the block. Both found higher student reading performance on required standardized tests in the schools using the specialized block than in those not using the block.

In this paragraph, you saw an easily identifiable comparison, or a point where one piece of research supported the findings shared in another piece of research. Do your comparisons have to look like this? Not necessarily. Consider this second example:

Hand-in-hand with effective teachers are both democratic education and mentoring programs in which teachers, school administrators, and community members foster personal, interpersonal, and environmental respect and cooperation. Both of these programs interject personal respon-

sibility, good role modeling, and preparation for adulthood into the lives of participating youth (Schechtman, 1993; Haensley & Parsons, 1993).

Note that here, rather than going into great detail, the writer presents only the important information that demonstrates the similarity of these programs. That minimalism can be important to the success of your literature review. Often, the reporting of additional, less important information can detract from the main point you want to share in your comparison.

Note, please, the citation at the end of the paragraph. That citation indicates the two authors whose articles support each other. This citation is integral to the integrity of your article, so when creating comparisons (or any other assessments based on literature you review), make sure your citations are complete and accurate. (Note that these articles are fictitious.)

Now, returning to your development of comparisons, what will be common to all comparisons?

1. Credit will be given to the authors whose articles are being compared, whether mentioned in text and cited appropriately or cited appropriately only at the end of the paragraph.
2. There will be a statement of similarities, whether explicit (This says... This agrees with ...) or implicit [Several researchers have indicated... (Jones, 2004, p. 23; Smith, 2003, p. 354).]

There will be a contextual tie into the overall topic (introduction of topic and summary that points out the importance of the comparison). This contextual tie doesn't have to be immediately following the comparison. It can occur

later and tie in several points made about the article alone or the article as one of several articles considered, but it does have to occur in a form that lets readers recognize your comparison as relevant, as well as important to gaining a greater understanding of your topic.

Practice

Select two articles that demonstrate some similarity identified above. Write a draft of the information presenting and supporting that comparison.

Discussion or Writing Activity

1. Examine several of the articles you plan to use. Consider the important information to note about them as you compare them, and include that information on the Critical Thinking Chart and your outline. Then draft your comparison paragraphs as directed in the *Practice* activity if you have not already done so. Place those comparison paragraphs into your evolving literature review.
2. Review the notes you've made in the Critical Thinking Chart on the articles you've read. Identify other comparison points and include them in your developing outline. Develop paragraphs discussing those comparisons, and integrate them into your evolving literature review.

Contrast: The Important Other Side of the Coin

Comparisons and contrasts truly are two sides of the same coin. A comparison considers the similarities between the content of two different articles, and a contrast does the opposite. It considers the differences between the contents of two articles. This consideration of the two sides of the coin—similarities and differences—lets you determine some of the variations in the factors concerning your topic. By using contrast with comparison, you can *paint a picture* of all of the facets of the factors concerning your topic.

Why is that important? Sometimes more can be discovered about the factors, dimensions, and perspectives of your topic by teasing out variables in characteristics, circumstances, timing, or other dimensions of factors related to different responses or outcomes in studies or that point to different relationships between the factors you're examining. This information gives you a greater ability to explain the characteristics of your factors and, as a result, of your topic because it lets you know what can change if subtle varia-

tions occur in the nature of that factor or within its surrounding environment or your topic.

Contrasts can consider a number of types of differences:

1. If what is being examined is articles presenting studies:
 - a. Differences in theoretical frameworks (logic, research, and rationale behind the position taken and the research question chosen).
 - b. Differences in research limitations.
 - c. Differences in research assumptions.
 - d. Differences in research design.
 - e. Differences in research study samples.
 - f. Differences in research results.
 - g. Differences in research conclusions.
2. If what is being examined is articles presenting surveys of literature or consideration of phenomena:
 - a. Relevant differences in histories.
 - b. Relevant differences in culture.
 - c. Relevant differences in religion.
 - d. Relevant differences in accepted or valued morals or ethics.
 - e. Relevant differences in conception of success and failure.
 - f. Relevant differences in ages of relevant entities (individuals, organizations, governments, etc.).
 - g. Relevant differences in location (characteristics, etc.).

- h. Relevant differences in resources or geography that could be relevant.
- i. Relevant differences in involved power structures.
- j. Relevant differences in any other area that becomes apparent through your reading.

In other words, the differences can be structural (theoretical frameworks, research design, limitations, environmental, etc.) or substantive (results, conclusions, perceptions, goals, ages of individuals, etc.). Please note that the wording for this information is almost exactly the same as the wording for comparisons!

As mentioned in the discussion of comparisons, writing styles and article formatting are not appropriate contrast points between articles, as well as most considerations about the nature of the authors involved. There is one exception here, though. If you have an author who has published only one article about a topic versus another who has published widely on the topic and you find the articles they've both written valid when you consider them, you may want to present this as part of your contrast of the information. Certainly, numerous peer-reviewed articles on a topic by one author doesn't necessarily make that author's work superior. It could, however, make that author's work more robust and present, perhaps, a stronger case for the author's greater knowledge about the subject.

That point—the potential for greater knowledge because of more extensively conducted research—can be important to consider. Remember, though, that greater research on a subject does not guarantee greater knowledge in the end or less impor-

tance of the ideas the second author shares. So, as you consider this, it would be wise not to allow it to override your consideration of the quality of the ideas being shared and the study conducted itself.

You might now guess that your hope as you objectively read literature is that you find many similarities between entities being studied and few differences. However, this isn't true. Each piece of information can help you better define the factors you've identified as important to your literature review. So, identifying quality contrasts is as important as identifying quality comparisons. Therefore, you should examine critically all similarities and differences in your articles as you read them so you can identify articles that help you substantively improve your understanding of your topic.

What does a contrast look like? Read below to see contrasts presented for the same articles created for the discussion on comparisons.

Similar to Jones (2006), Smith (2005) examined the reading performance of a group of 2nd grade students in an urban setting to determine the impact of a 90-minute reading block on students' performance. Although Smith examined only 1st grade students, both examined randomly selected classrooms from randomly selected schools, one group using a 90-minute block and one group not using the block. Both found higher student reading performance on required standardized tests in the schools using the specialized block than in those not using the block.

However, Evans (2000) and Jeffries (2003) examined the reading performance of 3rd grade students in rural settings that both used and did

not use the 90-minute reading block. Evans (2000) found that neither rural nor urban students randomly selected benefited from use of the block. Jeffries (2003) stated his research indicated the opposite. Using state standardized tests, Jeffries determined that randomly selected 3rd grade students in urban environments did benefit from the use of 90-minute reading blocks.

By adding this second paragraph, you can see the introduction of a contrasting idea based on research. Do your comparisons have to look like this? Not necessarily. Consider this second example that is actually a presentation of multiple potential explanations for an occurrence:

Numerous reasons could account for the difference in results between Evans (2000) and Jeffries (2003). It could be the use of different curricula (Leonard et al., 2006). It could be the management of time in the block (Owens, James, & Bettner, 2004). It could be the number of students being retained in the 3rd grade classes being studied (Davis & Thomas, 2004). There are a number of other possible reasons, but Evans (2000) and Jeffries (2003) did not provide enough background information on the study to determine which of these possible explanations or another potential explanation might explain the different results.

What will be common to any example of a written presentation of a contrast?

1. Credit will be given to both of the authors whose articles are being contrasted, whether mentioned in text and cited appropriately or cited appropriately only.

2. There will be a statement of differences, whether explicit (*This says... or This contradicts...*) or implicit [*Researcher A determined...* (2004, p. 25). *Researcher B determined, however...* (2003, p. 354).]
3. There will be a contextual tie into the overall topic (introduction of topic and summary that points out the importance of the comparison). This contextual tie doesn't have to be immediately following the contrast. It can occur later and tie in several points made about the same article or about numerous articles, but it does have to occur in a manner that lets readers identify that your contrast was relevant to your topic, as well as how it helps them gain a greater understanding of that topic.

Practice

Select two articles that demonstrate some difference identified above, preferably about at least one of the articles discussed in the comparison, to help reinforce your ability to see both similarities and differences between articles. Write a draft of the information, presenting and supporting that contrast.

Discussion or Writing Activity

1. Examine several of the articles you plan to use. Consider the important information to note about them as you contrast them, and include that information on the Critical Thinking Chart and your outline. Then draft your contrast paragraphs as directed in the *Practice* activity if you have not already done so. Place those contrast paragraphs into your evolving literature review.

2. Review the notes you've made in the Critical Thinking Chart on the articles you've read.
3. Identify other contrast points and add them to your developing outline. Develop paragraphs discussing those contrasts, and integrate those paragraphs into your evolving literature review.

Differentiating Between Strong and Weak Comparisons and Contrasts

Comparisons and contrasts are most effective when they're strongly related versus weakly related. That means, rather than try to justify the relationship or closeness of two topics being discussed about articles, look for clear, strong associations between articles. In other words, avoid having to bend, twist, or otherwise stretch the information shared in articles to create your comparison or contrast. Let me give you an example.

Here are seven one-sentence summaries of articles written on globalization.

Article 1: Globalization has resulted in not just factory work being exported, but also in high-tech work being exported.

Article 2: No matter what happens, globalization won't break us because we'll never outsource to other countries our high-level jobs and everyone else can survive on remaining service jobs.

Article 3: Globalization is changing the nature of fashion within the United States.

Article 4: Globalization has spotlighted a gap between the United States' educational system and those in other countries.

Article 5: In times of crisis, the United States is no longer a nation that could be self-sufficient because many jobs have been exported overseas.

Article 6: As a nation, when we increase our skill levels, globalization will be irrelevant because those who are good at their jobs and hardworking can always find a job in their field of interest.

Article 7: Globalization is causing a loss of good-paying jobs that can be filled by experienced senior citizens strapped financially who lack family able to help them financially.

When looking for comparisons and contrasts, the following articles fit those categories.

Comparison

Article 1 and Article 7
5

Contrast

Article 2 and Article

<i>Comparison—drawing similar conclusions</i>	<i>Contrast—drawing opposing conclusions</i>
Globalization has resulted in not just factory work being exported, but also in high-tech work being exported.	No matter what happens globalization won't break us because we'll never outsource to other countries our high-level jobs and everyone else can survive on remaining service jobs.
Globalization is causing a loss of good-paying jobs that can be filled by experienced senior citizens strapped financially who lack family able to help them financially.	In times of crisis, the United States is no longer a nation that could be self-sufficient because many jobs have been exported overseas.

Notice that the two comparison articles state, essentially, that both semiskilled and high technology jobs are being exported, one example of which is the category of jobs normally filled by senior citizens who wish to supplement their incomes. In contrast, the article saying that outsourcing will never occur for pivotal jobs and the article saying that the United States has outsourced too many pivotal jobs disagree with each other. Do you see how the construction of comparisons and contrasts occurs?

Now, look closely at the list of articles. What other comparisons and contrasts do you see?

If you examine the articles more closely, you can identify how you can build weaker relationships between some of the articles. These relationships are considered weaker because the links between their topics are less direct.

For example, Article 2 and Article 6 both refer to the concept that a number of United States jobs will stay within the country. However, one article refers to high-level jobs and the other article refers to hard workers in jobs at any level.

As a second example, examine Articles 5 and 6, which could loosely be considered as contrasting each other. One suggests that globalization will cripple the country because of the loss of jobs, while the other suggests that regardless of the number of jobs lost the United States be fine when its citizens are more highly educated.

In both of these cases, the comparison and contrast relationships are weaker because you have to infer a partial connection between these articles to compensate for the absence of exactly matching topics. Those partial connections make the comparisons and contrasts less valuable, since circumstances may not always be right for these relationships to be accurate.

That does not mean that these links are unimportant. You must make that decision based on other information you're finding. Perhaps the only research you have on your topic is mined (discussed earlier). In such a case, these types of comparisons and contrasts might yield you the only valuable information you can identify. How-

ever, in other cases where you have a wealth of information on your topic that provide you with strong comparisons and contrasts, you may determine such weaker comparisons and contrasts are not worth sharing in your literature review. (By the way, there is no specific number of articles or comparisons and contrasts you must use in a literature review—unless some requirement is established for your literature review by the party for whom you’re creating it.)

In addition, the importance of those potential relationship-negating factors (reasons the comparison or contrast is weak, or the links you’re conjecturing exist to make the comparison or contrast valid) must be clearly stated any time you choose to discuss those comparisons and contrasts in your literature review. P

Perhaps most important, making the inference required to validate the weaker relationship—comparison or contrast—within your literature review may involve your misrepresenting the authors’ data, analysis, or conclusions. You must be careful not to do that, or your literature review loses integrity. If, however, you’re unsure whether you are making such a faulty link because of the lack of data, you must make a choice. You may choose either not to share that comparison or contrast, or you may choose to share the comparison or contrast *and clearly indicate you’re unsure about whether the comparison or contrast is totally valid and how it would not be valid if the article’s circumstances were slightly different*. In other words, this process of presenting weak comparisons and contrasts can be very tricky and requires great precision!

Following are some examples of faulty comparisons and contrasts.

Faulty Comparisons Because Require Inference	Faulty Contrasts Because Require Inference
No matter what happens, globalization won't break us because we'll never outsource to other countries our high-level jobs and everyone else can survive on remaining service jobs.	In times of crisis, the United States is no longer a nation that could be self-sufficient because many jobs have been exported overseas.
As a nation, when we increase our skill levels, globalization will be irrelevant because those who are good at their jobs and hardworking can always find a job in their field of interest.	As a nation, when we increase our skill levels, globalization will be irrelevant because those who are good at their jobs and hardworking can always find a job in their field of interest.

Interestingly, Articles 4 and 6, when linked, help synthesize a partial picture of American's current economic system.

Article 4: Globalization has spotlighted a gap between the United States' educational system and those in other countries.	Article 6: As a nation, when we increase our skill levels, globalization will be irrelevant because those who are good at their jobs and hardworking can always find a job in their field of interest.
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However, this discussion doesn't cover synthesis. So, the globalization topic will be revisited then!

In summary, as you consider the strength of the comparisons and contrasts you create, examine the following:

1. Just how similar are the pieces of information you're comparing?
 - a. Are the programs, events, or occurrences mirror images of each other?
 - b. Are there differences in the environment and, if so, how major are they?
 - c. Are there differences in procedures and, if so, how major are they?
 - d. Are there differences in the characteristics of participants—staff, observers, participants, evaluators?

- e. Are there differences in the evaluation method and, if so, how major are they?
 - f. Are there any other differences that can be identified between the two topics, occurrences, or events that have not been identified here and, if so, how major are they?
2. Just how relevant to each other are these programs, events, circumstances, or occurrences?
- a. Do these programs, events, circumstances, or occurrences each have a perceived purpose?
 - i. Who perceives them having a purpose?
 - ii. Are the people perceiving them having a purpose the same or different?
 - b. How similar or different are their purposes based on people's perceptions or on the nature of the event, circumstance, or occurrence?
 - c. How is their purpose perceived by the participants?
 - d. Are their goals different as a result?
 - e. Is the mindset within the members of the organization, program, event, circumstance, or occurrence uniformly perceived, or is there variation?
3. Are there differences in time frames for occurrences—phases, patterns, or randomness—that can impact the comparison?

4. Are there any other differences you can identify that would affect how similar the two occurrences, programs, events, or circumstances might be?

When you have completed your consideration of these questions, consider how many of your answers indicate the topics, studies, samples, or other important points considered in the articles you've examined are different from each other. Remember, it's important to understand the nature of similarities between articles first because that allows you to then consider how they might be weakened by the nature and number of contrasts you find. You want to find as many differences as possible because the greater the number or importance of the differences that exist, depending on their relevance to the specific comparisons and the important dimensions of those comparisons, the weaker your comparisons (similarities) can become. This will all be important to share in your literature review to present a complete picture—again, if you determine those comparisons and contrasts are strong enough to warrant mention when you consider the volume and relative importance of the information you have to share.

Why? Again, you need to consider the possibility that other factors (variables) about which you know nothing or almost nothing may be impacting your topic or the topics considered in the articles you're reading. In addition, the factors (variables) within the articles you're reading, or even in your own literature review, may not be narrowed or broken into small enough subfactors to be considered effectively. In other words, like a person preparing yarn to needlepoint, you may need to tease out narrower strands of differences to understand the information's application to your

own topic, Without a thorough examination of the comparisons and contrasts in your articles and a consideration of their relative strengths and weaknesses, those circumstances may remain unidentified. You may end up including information in your literature review that adds little value to it or, potentially, detracts from its value.

So, you should also consider whether you need to narrow the focus of your comparisons and contrasts. If you have a narrow number of differences to consider, then you can more effectively consider the importance of each comparison and contrast involved.

Limitations and Delimitations

Limitations and delimitations set boundaries on your research. You may discover, for example, 20 different variations in the results of studies on a given factor related to your topic. Based on your topic and the volume of data, you may determine that 10 of those types of results either don't impact your specific topic or don't need to be considered because there's enough directly related data to consider. In such a case, you might choose to limit your literature review's coverage by *delimiting* it, or stating those specific topics won't be considered in your literature review. To do that, you would mention the existence of data concerning those dimensions, and then explain why you feel those dimensions can be eliminated from your discussion without damaging the overall conclusions you draw about your topic from your literature review.

For example, let's say your topic is the selection by patients of birthing centers versus home births. You might find a wealth of articles you

can use to develop strong comparisons and contrasts about the reasons patients choose to use birthing centers versus at-home births. As a result, you find the comparisons and contrasts you find between home births and traditional hospital births or traditional hospital births and birthing center births irrelevant. You could mention those articles exist (mentioning something general about the articles rather than mentioning them each separately). You would explain that, although traditional hospital ward births also occur in a facility rather than the home and, as a result, articles concerning them might have information of value to your research. You would also state, however, that because of the volume of information relating directly to your topic, you will not include that more distantly related literature in your discussion of your topic.

Practice

Examine all of the comparisons and contrasts you've identified. Consider which are direct and strong and which are loosely related and weak. If, based on your topic, you have a sufficient number of strong comparisons and contrasts, consider whether you can eliminate those that are weaker. Then fully develop the comparisons and contrasts you'll use in your literature review.

Discussion or Writing Assignment

Given the information you've just acquired, examine the comparisons and contrasts you've written and included in the Critical Thinking Chart and your outline. After you identify which are strong and which are weak, either remove weak paragraphs from your literature review or include a description of the reasons for their strength or weakness in your literature review.

Evaluation of Importance of the Literature to a Topic of Interest

An *evaluation* is an examination of how an article relates directly to your topic, or an examination of an article and your topic against another, additional topic. As you review literature, you will rarely find articles that relate directly to the topic you're considering—for example, the use of a mentoring program to help small women business owners explore the best way to expand an interior design business' use of technology. You will find articles on related topics—mentoring programs for women business owners in general or to assist with other activities, mentoring programs for executives, particular issues interior designers may experience in running businesses, or technologies useful to businesses or to interior designers, for example. Your job in developing an evaluation will be to discuss how those particular articles relate to your specific topic—in this example, the use of a mentoring program to help small women business owners explore the best way to expand an interior design business' use of technology.

As you review related articles after having used brainstorming techniques to identify the types of articles that might prove useful, you will probably have examined articles discussing some aspect common to your topic. They will also have one or a number of aspects different from your topic—for example, a different program, a different situation, a different event, or some other difference. If, for example, you're examining middle school supplemental education programs that use tutors, you might examine tutor programs for students at different grade levels, parent assistance to students, specialized for-profit programs (like Sylvan Learning), or other formal or informal programs. When you examine such programs as part of your literature review, you will need to evaluate the relationship of the program or situation examined in those articles to your own topic and include a discussion of how it relates to and helps you and the reader explain some of the factors or characteristics related to your topic.

Why is evaluation important? Evaluation gives you additional insight into your topic and the factors you're examining about it. It's an opportunity to consider and compare any idiosyncrasies your specific topic may have in relation to the other situations where the related studies you've examined were conducted.

By evaluating your topic against factors and details found in relevant research-based articles, you gain a way to compare the value of the information found in your articles, whether theoretical or applied studies, against the real-life situation involved in your topic. It allows you to evaluate the generalizability of the information you've gathered in your literature search to a broader topic or to other situations or environments related either closely or loosely to your topic. In the case

of an academic literature review, it allows you to evaluate the circumstances you're going to research as part of your dissertation against the general research you're acquiring about your topic. In the case of a simple or applied literature review, it gives you a chance to draw conclusions about a proposed plan or your conclusions based on already-experienced and already-analyzed results.

How many evaluations will you have in your literature review? You can have evaluations for each different factor or perspective, or point you're examining about your topic. This can even result in small evaluations of each piece of literature or each grouping of articles found to be similar to each other, if they provide you with valuable insights into your specific situation, event, or program. In other words, the better question is how many should you have. You should have one for each article or group of articles examining a different aspect of a factor about your topic that you consider.

For an academic review, the evaluation criteria will revolve around your topic, as well as the environment you're researching. For other literature reviews, you may have several evaluation subfactors or other smaller subgroups you examine to get a clear picture of the importance of information you've gathered. In such cases, you need to keep the nature of those subgroups in mind as you conduct your evaluation.

Your evaluation criteria will be aspects of your own topic. Let's say, for example, you're examining again the usefulness of mentors to technological decision making for women small interior design business owners. Each of these characteristics—small business, interior design, wo-

men, technology, and mentors—would be an evaluation point for articles. In addition, evaluation points could include demographic differences of employees or of a geographic region's population, different types of technology (interior design, accounting, personnel tracking, payroll), different mentoring styles (coach, Small Business Administration, or other), and other similar kinds of variables that may occur either in the environment where you'll conduct your study (if an academic review) or in your environment (if for a planning or review project). In other words, the criteria for evaluation aren't set in stone. They require you to consider the area where you'll be using the information you're gathering—the setting where you'll conduct your study, where you'll incorporate the business or environmental changes being considered, or where you're assigned to examine in your assignment.

Suppose, for example, you're researching the following question: What impact, if any, would a Fortune 500 management training program have on teachers' management effectiveness within their classrooms?

There are a number of subquestions to consider when determining the answer. They include:

1. What is known about the role of teachers as managers?
2. What similarities and differences exist between teachers as managers and Fortune 500 business mid-level managers?
3. What training occurs currently for teachers as classroom managers?
4. How effective is the training currently occurring for teachers as classroom managers?

5. What similarities and differences exist between teacher training programs and Fortune 500 business mid-level manager training programs?

These similarities and differences should each be discussed in your literature review to demonstrate you have an understanding not just of the literature in an abstract sense, but also in a concrete sense. This ability to apply information concretely allows you to understand how your findings (after the study or program implementation) relate to previous literature in the environment you're examining. So, a strong evaluation is integral to the success of your literature review.

There are a number of useful directions in which to go when creating an evaluation. In relation to the example just discussed, here are some considerations. The choice or choices of what to discuss will be determined based, again, on your ultimate research interests. Here are some possibilities.

1. Compare teaching management to Wal-Mart management methods and needs. (Compare teacher management to management within specific organizations.)
2. Compare Fortune 500 management training programs to management training programs provided by S.C.O.R.E. (Compare Fortune 500 management training to other training programs.)
3. Compare the S.T.E.P. parenting program to teaching management skill requirements.
4. Compare parenting skills to management skills. (Are parenting and management skills different enough to create a need for one over the other?)

5. Compare elementary classroom management training programs with college classroom management training. (Compare classroom needs to different grades.)

By examining this list, you'll see that often evaluation is examining a specific subset related to your larger topic. For an academic literature review, the evaluation would be developed based on the subset or subgroup to which it is applied. In other words:

1. What program differences or differences in characteristics between two entities, environments, or groups can be compared?
2. How are they similar or different? Is there an existing program or occurrence that has the potential to change the characters involved in your topic?
3. Is there a variable involved in one circumstance or occurrence that is not involved in the other that creates the potential for change?
4. If that variable or occurrence can be impacted by human performance of a task, have you factored that potential difference into your evaluation?
5. What characteristics from the external circumstance, program, or event, then, appear to have the ability to positively or negatively impact the specific circumstance you're evaluating?
6. What characteristics from the external circumstance, program, or event remain wild cards?

However, ultimately your smaller evaluations need to be woven together to create a larger framework that explains the larger topic you're researching. Put another way, narrow your topic to help you identify how the information gathered by others applies to your area of research or program development interest, but plan at the end to consider how all the smaller evaluations fit into an explanation of the *larger picture*.

What should that look like inside your literature review? Your evaluation should have several layers. The first is a discussion of the relative relationship of different articles to your topic within each section of your literature review. If, for example, you have a section designated *Management Training Programs*, you would have at least one evaluation of all of the information in that section to your topic. However, you should also have a discussion of each program you analyze in relation to your topic. That discussion should include how the program is different from or similar to your own and what that means to the importance of the information shared in those articles on the program to your topic.

Practice

Considering your topic, what areas of interest could you use as evaluation points? Consider the ultimate purpose of your literature review. What evaluation point or points should you use for each factor and subfactor?

Discussion or Writing Activity

1. Examine several of the articles you plan to use. Consider the important information to note about them as you evaluate them against

2. some factors or circumstances, and include that information on the Critical Thinking Chart and in your outline. Then draft the evaluation paragraphs for the topics you identified. Place those evaluation paragraphs into your evolving literature review.
3. Review the notes you've made in the Critical Thinking Chart on the articles you've read. Identify how other articles relate to your evaluation topics. Develop paragraphs discussing those evaluations, and integrate them into your evolving literature review.

Maximizing Your Evaluation

To maximize an evaluation, you need to do two things—consider the content of your evaluation and consider the placement of your evaluation. These two considerations will be discussed separately here.

Content. First, consider content. Remember, an evaluation is an assessment of what you've learned in the literature in relation to a specific outside topic (normally your own research topic or one of its factors or a related or similar topic or subtopic)—a circumstance, occurrence, event or phenomenon. During this process, it can be easy to lose your objectivity. A solid consideration of the following two points can help you maintain your objectivity and help you link your evaluation well to both the literature you're reviewing and your topic.

As you review these points, consider your own literature review. Consider how you've used evaluations to relate your research to the specific topic you're examining. Consider whether your logic is presented soundly, and consider whether your

logic effectively links your evaluation points to your research.

Examples to help you understand these points follow. These examples will also give you practice with identifying valuable evaluation points.

1. How well linked is your evaluation point to your topic and what you've read?

The link should be close, not distant. Remember, you want the topics of the research you're evaluating to be as closely linked to the topic of your research as possible. Given that, here's an exercise to help illustrate what constitutes a close link and a distant link. Which of the following topics would be most useful when examining home health care management?

- a. The Home Hospice Program
- b. Physician Office Management
- c. Physician Home Visit Program
- d. Humana Hospital
- e. All Care Hospital Supply

As you might guess, topics useful for developing evaluation points could be the Home Hospice Program and the Physician Home Visit Program. The office management program and hospital and hospital supply businesses would be unrelated and would tell you nothing about what your literature really means.

2. How much can the topics of the literature you've read help you evaluate your topic or a specific event, environment, or circumstance related to it?

Let's say you're examining the topic of *providing emotional support to clients in home health care programs*. Two programs listed above that are potentially valuable for evaluating your topic in relation to your situation would be the Home Hospice Program and the Physician Home Visit Program.

How do you determine which of these is most useful for your evaluation if you're not going to examine either of these topics as a subfactor in your literature review? This is an important question. You determine which article (or which research topic) will give you the best chance to understand the literature in relation to your specific topic, and you consider whether you should include that factor as a part of your core literature review plan and outline!

You identify which articles are going to give you different perspectives or insights against which you can compare and contrast the factors you've identified for discussion in your literature review. In other words, you ask yourself whether some characteristic of the project, situation, or event described in the article is similar to your topic or to a specific environment, circumstance, or program somehow related to your topic. For example, let's look at each program more closely:

Home Hospice Program—local independent program, no special management training, no psychologists on staff or as providers, nurses providing service visits in home

Physician Home Visit Program—local independent program, physician oversight for management, psychologists on staff as consultants but not as providers, nurses providing service visits in home, paraprofessionals and medical equipment technicians also providing service

As you can see, there are different facets of each program to consider as potentially helpful to your examination of your topic. The Home Hospice Program has service providers with no special psychology training, so it might be useful in an evaluation as a counter perspective. Why? It can illustrate what can happen when no individuals trained in providing emotional support are involved in providing health services.

However, the value of the article will probably be limited. Why? Patients' emotional needs will likely not be the focus of the article, and little may be said about emotional needs in the article as a result.

It is much more likely you'll get valuable insight from the article discussing the Physician Home Visit Program. Why? The program has psychologists on staff to consult with other staff in need of psychological insights. Since your topic is emotional support provided by home health care providers, the maximal opportunity to consider variables would appear, then, to be the Physician Home Visit Program.

However, your final decision will be based on exactly what is available in the article. If the article doesn't discuss medical technicians in any detail, it might prove less beneficial than another article. However, if it provides information on other inter-

nal service providers who need psychological insights, it might still prove useful.

However, if does not discuss any staff members' needs for psychological insights, focusing instead on administrative management or some similar unrelated topic, neither article may be useful for evaluation purposes. However, if clients' emotional needs are discussed in the Home Hospice Program at all, then the article about it may prove at least a little useful for developing an evaluation.

Having chosen the evaluation point you're going to use for comparison in the literature you're reading, the next step is to compare the dynamics in the literature to see how similar or different they are in relation to the topic you're specifically trying to understand. That similarity or difference when applied to our example would include:

1. whether there's information on the characteristics quality providers should have
2. whether there's information on medical technicians' roles in patient interactions, on physicians' home visit roles in patient interactions, and on nurses' roles in patient interactions
3. whether there's information on the emotional support provided by home health care providers that impacts your choice of program to explore

In other words, is there any information that indicated additional emotional support would prove helpful to clients—even if that information was a question or conjecture raised by a researcher at the end of the article? If there is such information, then the article can help you assess the need for emotional support and what's required to provide that support. If not, then the

value of the article to your evaluation is limited or nonexistent.

So, having analyzed an article or group of articles and conducted a comparison and contrast of them, you use that comparison and contrast to better understand the relationship of the information to your topic and your specific situation or event. When developing an evaluation, you would consider the similarities and differences of the characteristics of home health care providers' emotional support of homebound patients and their programs in relation to specific circumstances and needs related to your topic. What is similar? What is different? What can the article tell you, and what do you need to share about which parts of it in order to ensure your reader understands the comparison you're making?

Placement. Second, consider the placement of your evaluation within your literature review. Remember, for each major point (and many minor ones) you discuss in your literature review, you'll need to include an evaluation of it in relation to your topic. Placement of that information can be important to your readers' understanding of your topic and the points you make.

Although your evaluations could be placed in a number of locations, two might be considered optimal. The first would be at the end of all comparisons and contrasts as part of the synthesis and integration. The second would be at the ends of your discussions of each major comparison and contrast. In that case, your evaluations would be scattered throughout your literature review. However, in a well-developed literature review, evaluations will often exist in both locations—one group as periodic evaluations and the other as a summative evaluation at the end.

Why? When you present your evaluations at the end of your discussion of each major factor or important subfactor, it allows readers to consider the importance and strength of your conclusions in close proximity to the points supporting them rather than requiring them to recall those points at the end of your literature review. Repeated briefly as part of the creation of your final synthesis and integration, evaluations create logic bridges from your initial consideration of each point in the text to your conclusions about the importance of those points to your topic, as well as to your proposed *next step*, if your literature review includes one. Their repetition also allows the reader to understand why you draw the conclusions that dictate the characteristics of your synthesis and integration.

Practice

Re-examine your list of evaluation points. Evaluate which provide the most direct opportunities for you to provide comparisons and contrasts based on your question and topic.

Discussion or Writing Assignment

Given the information you've just acquired, examine the evaluations you've written and included in the Critical Thinking Chart and your outline. After you identify which are direct and which are weaker, either remove weaker paragraphs from your literature review or include a description of their strengths or weaknesses in your literature review.

How Does Synthesizing Ideas Help Create a Framework?

Just as you've read and analyzed others' frameworks as you've considered the quality and value of the articles you've researched, your literature review will draw conclusions or present a summation of your research that will be a framework of what you've determined in your re-search process. Our discussion of frameworks previously has been limited. However, now it's important to discuss exactly how a framework is developed and why it's important.

There are two kinds of frameworks. One is theoretical, and one is conceptual. Not much will be included on the differences here because the differences won't have an impact on your literature review. So, if you want further information, I suggest you read a portion of a book discussing research methodology.

However, based on your literature review topic and what your research tells you, you'll probably have a conceptual framework that builds on both previous theories presented by great thinkers in your discipline or related to your topic and current research reported in peer-reviewed journal

articles on your topic. That means that, since the purpose of a framework is to help your reader understand why you've developed the perspective you have based on the literature you've read on your topic, you'll need to transform all of your examination points—your comparisons, contrasts, and evaluations—into one larger, cohesive conclusion. Your synthesis—your compiled understanding of the commonalities found in research results and conclusions—(in combination with your integration and evaluations) will be the framework you create.

For a moment, picture synthesizing ideas as part of an effort to create a spider web explaining information and insights on your specific topic. Those synthesized ideas support change or movement based on a perspective, idea, or a concept related to your topic. Synthesis is just such a spider web. Its action is like weaving together the agreeing, complementary ideas different researchers have discussed to create a whole picture of how different pieces of research support each other.

Here's an example. You have 12 articles with one-sentence to two-sentence summaries that follow:

Article 1: A randomly selected group of teenagers in an urban school district have no interest in higher education because they believe they will not live to see their 20th birthday.

Article 2: Randomly selected middle school students in three urban school districts are concerned about their futures and interested in becoming involved in training programs and college after graduating.

Article 3: An ethnographic examination of literature in three rural school districts demonstrates rural teenagers tend to leave their communities to go to college.

Article 4: Randomly selected rural high school students in one state indicated they find college a good way to escape what they feel to be the negative aspects of their rural environment.

Article 5: Randomly selected low income urban high school students indicated they believed college was their chance to escape the poverty in which they were living.

Article 6: High school students' high stakes testing in one state indicate that 65% of the students' scores were not high enough to graduate from high school or to indicate they might be accepted in a 4-year college.

Article 7: Approximately 85% of urban high school students' high stakes testing scores in three urban districts were high enough for students to pass, and those scores indicate they should be accepted to a 4-year college.

Article 8: Randomly selected rural high school students in three districts indicated that they find their environment boring and that college is one way to escape their environment.

Article 9: Randomly selected urban high school students in three schools indicate they find their environment limiting and want to find a new challenge. They indicated college offered them one opportunity to pursue other interests.

Article 10: Approximately 50% of randomly selected urban high school students believed they would never succeed in high school, so they shouldn't try.

Article 11: Approximately 35% of randomly selected middle school students in three districts believed high school would be difficult emotionally and cognitively, but they felt ready for the challenge.

Article 12: Approximately 70% of randomly selected high school high income district students indicated their parents would be disappointed with them if they didn't go to college, so no other postsecondary school options appeared worth considering.

To synthesize these ideas, examine each to see which of them don't contradict each other. You could sort them this way:

Wish to go to college:

Article 2, 11 middle school students

Article 3, 4, 8 rural high school students

Article 5 urban low income high school students

Article 9 urban high school students

Article 12 high income high school students

Article 1 teenagers

All of these articles indicate findings about whether or why students want to go to college. How, then, do you synthesize them? You look at the piece of the picture that each individual article can add to an overall view of why students want

to go to college. Your synthesis of ideas might look like this:

Smith (2004) determined that middle school students believed they could accomplish what they set out to do, which did not discourage them from attending college. Jones's (2003) research demonstrated that rural high school students tended to go to college, who found one reason they attended college was because they found their lives boring. Jeffries (2001) also found rural high school students liked to attend college, although because they believed their environment had negative aspects. These students indicated they were looking for a challenge they believed college would provide (Jeffries, 2001; Davis, 2004). Urban high school students indicated they wished to attend college because they were bored, as well as because they saw it as their chance to escape poverty (Jermaine, 2005; Kauffman, 2006). Finally, high income high school students expressed another reason for attending college—the desire to not disappoint their parents. In fact, they believed that there was no other acceptable option (Crane, 2005).

Do you see how each of these pieces contributes to creating part of a spider web that explains reasons high school students may select college?

Now it's time to revisit the globalization example used earlier in the discussion of comparisons and contrasts.

Here are 7 one-sentence summaries for articles on globalization.

Article 1: Globalization has resulted in not just factory work being exported, but also in high-tech work being exported.

Article 2: No matter what happens, globalization won't break us because we'll never out-source to other countries our high-level jobs and everyone else can survive on remaining service jobs.

Article 3: Globalization is changing the nature of fashion within the United States.

Article 4: Globalization has spotlighted a gap between the United States' educational system and those in other countries.

Article 5: In times of crisis, the United States is no longer a nation that could be self-sufficient because many jobs have been exported overseas.

Article 6: As a nation, when we increase our skill levels, globalization will be irrelevant because those who are good at their jobs and hardworking can always find a job in their field of interest.

Article 7: Globalization is causing a loss of good-paying jobs that can be filled by experienced senior citizens strapped financially who lack family able to help them financially.

When developing syntheses, once again, you review the information you've formulated on comparisons to see how those pieces of information can fit together to explain different dimensions of the same topic.

Comparison

Article 1 and Article 7

<i>Comparison—drawing similar conclusions</i>
Globalization has resulted in not just factory work being exported, but also in high-tech work being exported.
Globalization is causing a loss of good-paying jobs that can be filled by experienced senior citizens strapped financially who lack family able to help them financially.

Articles 1 and 7 reinforce each other. Combined, they explain that factory and high-tech work is being exported. They also explain that the loss of that work is causing a loss of income to some senior citizens. This combined information explains the type of work being lost and one reason why that type of work is important.

Interestingly, articles 4 and 6 help to synthesize a partial picture of American's current economic system.

Article 4: Globalization has spotlighted a gap between the United States' educational system and those in other countries.	Article 6: As a nation, when we increase our skill levels, globalization will be irrelevant because those who are good at their jobs and hardworking can always find a job in their field of interest.
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What does this mean?

Globalization has spotlighted a gap between educational systems in the United States and other countries. Once the skill levels of American citizens have been raised to bridge that gap, Americans won't lose any more jobs will to globalization because Americans will have enough skills to maintain their high international employment rates.

Can you see how syntheses fit together? The articles contain slightly different information that, when combined by recognizing similarities, create a more complete picture.

Before moving on, it's important to discuss being careful when creating syntheses. During the process of creating syntheses, researchers are building conclusions based on the linking (or weaving together) of multiple ideas. This is a point where faulty logic, inappropriately understood or applied information, inaccurately understood or applied information, or overgeneralization can cause fatal errors in the development of a sound literature review. Since a literature review is used to develop a theoretical framework for further research or project development, it's essential to be rigorous in examining literature and data during this synthesis process.

Practice

Examine the comparison points you've developed from your literature search. Which have the same or similar topics? Consider how they can be woven together to explain circumstances surrounding one or more factors or subfactors related to your topic.

Discussion or Writing Activity

Examine several of the articles you plan to use. Consider the important information to note about them as you examine your comparisons of them in the Critical Thinking Chart. Consider how those comparisons fit together to create a larger picture of your topic. Record those relationships in the Critical Thinking Chart.

What Does a Synthesis Look Like?

Syntheses look different from the comparisons to which they are closely related. The reason is that comparisons might be made between the topics' characteristics as shared in articles or the results reported in or conclusions presented in those articles. Syntheses reach a step farther to look at larger instances of commonality. Here are some examples of what a synthesis might look like.

Example 1—A synthesis presentation dissected. The first example presented uses the factors or characteristics discussed in the previous section—considering reasons high school students go to college. First, determine the different factors your research indicated are reasons high school students go to college. Then, combine them to identify agreeing and complementary points that explain that factor, subfactor, or characteristic. What would such a synthesis of agreeing and complementary pieces of information look like? Here's one possibility:

Numerous reasons were identified for high school students electing to attend college. Both

numbers of rural and urban high school students indicated they were bored with their environments and saw college attendance as a chance to experience new challenges (Jeffries, 2001; Davis, 2004; Jermaine, 2005). In addition, urban low income students saw college as an opportunity to escape poverty (Kauffman, 2006). High income high school students indicated a third motivation—the desire to please their parents (Crane, 2005).

Notice that, in this paragraph, the focus is on how *these pieces fit together to create an overall picture* of what's known. From that group of articles, this illustrates how the reasons for high school students' motivation to attend college can be combined. Notice the reasons that students did not go to college are not addressed. The specific groups involved in each of these motivations are identified.

Do rural low income students wish to escape poverty? Perhaps, and that could be discussed in a separate paragraph within your literature review as a point that can be considered in future research. However, that information isn't discussed in the literature you've read for your review, so it isn't included in the synthesis.

The literature that's relevant is cited. That's important, since this part of the literature review creates a framework for future research or activities. Why is the framework you develop important? Whether the literature review is simple, applied, or academic, this framework provides the basis for any conclusions you may draw or future plans you may develop. It is the justification for your *money* if you write a grant proposal, your *proposed action plan* if you conduct a case study, your *research study* if you defend a dissertation,

or your *conclusions* if you write a simple literature review. So, although the articles were cited earlier as they were considered and discussed, they should be cited in your synthesis so readers can continue to understand the line of logic you, the writer, are creating. Otherwise, your literature review may end with a whimper rather than a bang.

Notice also that the verbs in this paragraph are in past tense—were, saw, indicated. The standard for writing about most articles used in a literature review is past tense. After all, each of the articles you're reading has been written in the past. So, each of the research studies done to gather the information shared was done in the past. The one exception to this past tense would be sharing something meant to be a generalizable, ongoing conclusion. For example:

Piaget (1955) determined that infants experience separation anxiety from about 6 months old to 1 year old.

This citation does not describe a specific study, its results, or the conclusions drawn from it. Instead, it describes an ongoing conclusion generalizable to a specific group, regardless of the period of time in which it's occurring.

Example 2—The use of syntheses as links and literature review developmental steps. It's also important to understand how syntheses can occur in multiple locations throughout the literature review. By developing syntheses periodically, you allow readers to gain ever-increasing understandings of the relationships between different factors involved in your topic and their importance to the complex, complete picture. Then, those syntheses can be summarized in a final, end-of review summary.

Let's look at a couple of other syntheses to illustrate this. Synthesis 1:

Flexible scheduling. X School District began experimenting with flexible scheduling because its classes were getting too crowded. A state school financing law limiting the funding localities could contribute to their students' education, recently passed, was discovered by the Utah Foundation and immediately protested. Head Start programs introduced into Utah's rural areas were proving highly successful ("Achieving Academic," Salt Lake Tribune, March 17, 1975; "Defect In," Salt Lake Tribune, January 2, 1975; "Head Start," Salt Lake Tribune, January 5, 1975). (Dawidowicz, 2001, p. 236)

This synthesis serves as a part of the conclusions at the end of a section of the literature review. Farther into the dissertation is the following.

The occurrence of dysfunctional family relationships in prediversification families was borne out further by interviewees' reports and statistics on child abuse, particularly sexual abuse. Further, the increase in gay activity, seen by some as a reaction to poor family relationships, could help to frame the nature of the traditional family in Utah and give some perspective from which to judge diversification period changes. Either way, this issue is one that causes more than friction within the culture. As noted earlier, this issue has contributed to a shift in the focus of hate crimes to religious and sexual preference causes. This shift demonstrates how deeply these cultural biases may be anchored and places the development of such groups as Straight Edge, an LDS-supporting gang, in perspective. (Dawidowicz, 2001, p. 269)

Notice there are no citations here. Because this information is woven from data discussed directly before this synthesis, the writer does not cite that information. Instead, the citation is presented in context in previous data and synthesized here.

Example 3—Syntheses in articles you read. This following synthesis is included to show that syntheses do not always occur during the literature review in articles you read. Syntheses will be integral to interpreting and analyzing any data, and are something you will see as you read any article. It's good to recognize their use and be a critical reader of them, since faulty logic within them can create poorly drawn conclusions. In this case, the synthesis is part of the creation of a research framework at the beginning of an article.

Although some students entered the school because they preferred its educational schedule, the program used became an important benefit to many students because its democratic teaching techniques could help combat their feelings of inadequacy and unacceptance. Instead, it could contribute to their development of positive self-esteem, positive school experiences, and improved school performance. Some of these techniques included the use of first names, equal treatment, and active listening employing equal teacher and student respect (Bynum & Dunn, 1996; Field, Lang, Yando, & Bendell, 1995; Gay, 1988; Haensley & Parsons, 1993; Ho, Lempers & Clark-Lempers, 1995; Hoge, Smit, & Crist, 1997; Jacobvitz & Bush, 1996; Levendosky, Okun & Parker, 1995; McCabe, 1997; Liu, Kaplan, & Risser, 1992; Rabow, Radcliffe- Vasile, Newcomb, & Hernandez, 1992; Roizblatt et al., 1997; Schechtman, 1993; Sheets et al., 1996; Speicher, 1994; Whitbeck,

Hoyt, Miller & Kao, 1992; Wilson & Wilson, 1992). (Dawidowicz, 2006, p. 6)

This portion of a synthesis is presented to explain the initial theoretical framework used to design and conduct a study. It is similar to the synthesis found at the end of a literature review in a dissertation or at the end of the theoretical framework section of an article presenting a study.

Note that all three of these syntheses are summary in nature. Syntheses are summaries because they combine information already discussed earlier in the literature review or draw together already analyzed information from other literature reviews. Further, note that in two of the three syntheses presented, citing is done. Those citations identify the articles used to create a theoretical framework.

Again, as you synthesize data or review others syntheses, be sure you watch the logic trail created in the article. Is it solid or faulty? Also pay attention to whether you see any misinterpretations or misrepresentations of information. As you prepare your own literature review syntheses, make sure you guard against your own development of faulty logic trails, as well. Whether intentional or unintentional, such errors can create fatal flaws that take your literature review from quality to ineffective.

References

Dawidowicz, P. (2001). *"Sometimes you gotta learn the concept, not just the rules": Educational and cultural impacts of Utah's diversification process.* Ann Arbor, MI: UMI Press.

Dawidowicz, P. (2006). Using administrative style to increase student self-esteem, empowerment, and responsibility. *Positive Change Quarterly*, 1(1).

Practice

After having identified the points you'll include in your synthesis, consider where you're placing this synthesis in your literature review. Do you need citations? How should you develop your written synthesis? Draft at least one synthesis for your literature review.

Discussion or Writing Activity

Having examined the Critical Thinking Chart and outline and having identified the comparisons that form a larger picture of your topic, draft synthesis paragraphs for the syntheses you have identified. Place those synthesis paragraphs into your evolving literature review.

Synthesis and Integration: Complementing Ideas

Integration complements synthesis and presents another important piece of your framework because it's the process of finding a way to make seemingly contradictory ideas form some type of logical, complementary picture. What does that mean? It means seeing how one circumstance studied that differs from another can help you explain why articles about factors or subfactors might on the surface appear to contradict each other by looking more closely at the differences in circumstances, environments, or populations they examine. By identifying those differences, you can reconcile what look like conflicts between articles and research-based knowledge. This process can help you understand how conflicting studies can explain the dynamics (variability based on differing external factors) of your complex topic.

Here's a revisitation of the articles used as illustration in the previous section on synthesis.

Article 1: A randomly selected group of teenagers in an urban school district have no interest in

higher education because they believe they will not live to see their 20th birthday.

Article 2: Randomly selected middle school students in three urban school districts are concerned about their futures and interested in becoming involved in training programs and college after graduating.

Article 3: An ethnographic examination of literature in three rural school districts demonstrates that rural teenagers tend to leave their communities to go to college.

Article 4: Randomly selected rural high school students in one state indicated they find college a good way to escape what they feel to be the negative aspects of their rural environment.

Article 5: Randomly selected low income urban high school students indicated they believed college was their chance to escape the poverty in which they were living.

Article 6: High school students' high stakes testing in one state indicate that 65% of the students' scores were not high enough to graduate from high school or to indicate they might be accepted in a 4-year college.

Article 7: Approximately 85% of urban high school students' high stakes testing scores in three urban districts were high enough for students to pass, and those scores indicate they should be accepted to a 4-year college.

Article 8: Randomly selected rural high school students in three districts indicated that they

find their environment boring and that college is one way to escape their environment.

Article 9: Randomly selected urban high school students in three schools indicate they find their environment limiting and want to find a new challenge. They indicated college offered them one opportunity to pursue other interests.

Article 10: Approximately 50% of randomly selected urban high school students believed they would never succeed in high school, so they shouldn't try.

Article 11: Approximately 35% of randomly selected middle school students in three districts believed high school would be difficult emotionally and cognitively, but they felt ready for the challenge.

Article 12: Approximately 70% of randomly selected high school high income district students indicated their parents would be disappointed with them if they didn't go to college, so no other postsecondary school options appeared worth considering.

As you can see from the difference in font, contradictory articles appear to be:

Article 1: majority of urban teenagers in one district did not want college, did not believe they would live to their 20th birthdays

Article 6: 65% students' scores not high enough to get accepted to college

Article 10: 50% of randomly selected urban high school students felt would never succeed in high school, so why try

Take a moment to reconsider the synthesis information discussed previously. Now, let's see how contradictory articles can fit into the total picture. Based on the fictitious articles, here's the previous synthesis:

Numerous reasons were identified for high school students electing to attend college. Both numbers of rural and urban high school students indicated they were bored with their environments and saw college attendance as a chance to experience new challenges (Jeffries, 2001; Davis, 2004; Jermaine, 2005). In addition, urban low income students saw college as an opportunity to escape poverty (Kauffman, 2006). High income high school students indicated a third motivation—the desire to please their parents (Crane, 2005).

Now to add the integration:

However, in some urban locations, it appears the majority of teenagers indicated they did not believe they would live until they were 20 years old. As a result, they felt college was not worth pursuing (Anwat, 2001). Perhaps for students in particularly violent urban locations, a sense of overwhelming danger prevents planning for the future. At the same time, students who did not receive high enough test and school grades to get accepted into college might also become discouraged and choose not to pursue college, even if they can access alternative higher education entrance methods (Verdun, 2003). This is perhaps

borne out by a study indicating that 50% of urban high school students felt they would never succeed in high school (Blaine, 2005).

As a second example, here are 7 one-sentence summaries for articles on globalization.

Article 1: Globalization has resulted in not just factory work being exported, but also in high-tech work being exported.

Article 2: No matter what happens, globalization won't break us because we'll never outsource to other countries our high-level jobs and everyone else can survive on remaining service jobs.

Article 3: Globalization is changing the nature of fashion within the United States.

Article 4: Globalization has spotlighted a gap between the United States' educational system and those in other countries.

Article 5: In times of crisis, the United States is no longer a nation that could be self-sufficient because many jobs have been exported overseas.

Article 6: As a nation, when we increase our skill levels, globalization will be irrelevant because those who are good at their jobs and hardworking can always find a job in their field of interest.

Article 7: Globalization is causing a loss of good-paying jobs that can be filled by experienced senior citizens strapped financially who lack family able to help them financially.

When looking for comparisons and contrasts, the following articles fit those categories.

Contrast

Article 2 and Article 5

<i>Contrast—drawing opposing conclusions</i>
No matter what happens, globalization won't break us because we'll never outsource to other countries our high-level jobs and everyone else can survive on remaining service jobs.
In times of crisis, the United States is no longer a nation that could be self-sufficient because many jobs have been exported overseas.

Article 6 could also loosely be considered as contrasting these two articles. One suggests that globalization will cripple the country because of the loss of jobs, while the other suggests that regardless of the number of jobs lost the United States be fine when its citizens are more highly educated.

The integration could look like this:

Although the country is no longer self-sufficient because of the loss of jobs, globalization will never break the country because the United States will never outsource high-level jobs to other countries. As long as high-level jobs are maintained, everyone not in a high level job can survive on the remaining service level jobs, regardless of which jobs have been lost overseas. Finally, although a number of jobs have gone overseas, more jobs will become available as individuals' skill levels increase and jobs are returned to the country as a result.

Notice how these different, almost contradictory, ideas can be combined to create a whole that explains how these different articles fit together rather than contradict each other.

Remember, as you develop your integrations, that citing your sources is important. Just as with your development of syntheses, you need to present your sources effectively here to guarantee your integrations carry the weight they deserve. Without sources, they can appear to the reader (as my last integration example could because I included no sources for the articles) to be based on your own ideas rather than an integration of others' ideas.

Before moving on, it's important to discuss being careful when creating integrations. During the process of creating integrations, researchers are building conclusions based on the linking (or weaving together) of multiple ideas. This is a point where **faulty logic, inappropriately understood or applied information, inaccurately understood or applied information, or overgeneralization** can cause **fatal errors in the development of a quality literature review**. Since a literature review can be used to develop a theoretical framework for further research or project development, it's essential to be rigorous in examining and maintaining the meaning of literature and data during this integration process.

Practice

Examine the contrasts you identified in previous work on your topic. How can these contrasts be combined to explain and complement each other even though they appear to be contradictions of each other?

Discussion or Writing Activity

Examine several of the articles you plan to use in your literature review. Consider what the contrasts between them contribute to an overall

understanding of your topic. For this, you'll find your Critical Thinking Chart and your outline particularly useful. Consider how those contrasts can fit together to create a larger picture of your topic. Record those relationships in the Critical Thinking Chart.

Having examined the Critical Thinking Chart and identified the relationships of contrasts that help form a larger picture of your topic, draft paragraphs for the integrations you have identified. Place those integration paragraphs into your evolving literature review.

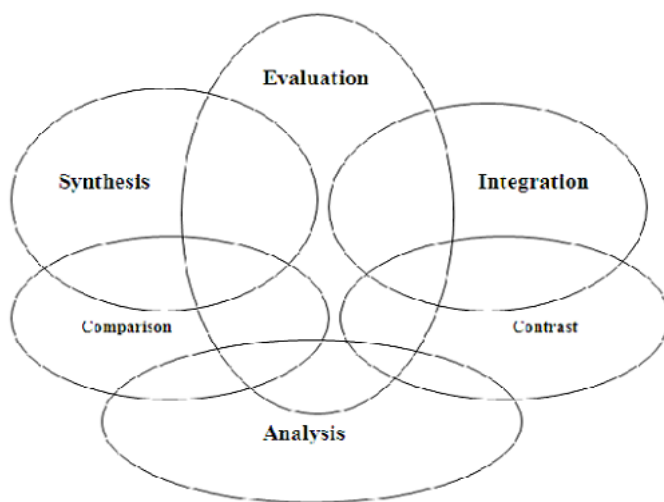
Analysis, Comparison, Contrast, Evaluation, Synthesis, and Integration

Does it feel like you just keep examining the data over and over again? Perhaps understanding where synthesis fits in relation to analysis, comparison, contrast, and evaluation will help. Let's look at the relationships between them, and make the process feel a little less repetitive.

The process of examination of data using higher order thinking skills is actually in itself composed of an interconnecting set of activities. You analyze each article. Based on your analysis, you determine the value of each article to the literature review. You use articles selected as valuable to form comparisons and contrasts. You examine those analyses, comparisons, and contrasts to develop both the syntheses and integrations of information that help create the frameworks you or others will use for future research or program design. Finally, you evaluate the important points in those articles—the important pieces of information making up your framework—to determine how they and the situations or circumstances they consider relate either closely or distantly to

your specific topic and the characteristics, circumstances, environment, or population that make your topic different or distinctive. This is the final piece of the framework you develop. This applies to all literature reviews, whether they're developed to design an action plan, research study, or just to discuss a topic for a high school history class. I'll discuss this in greater detail shortly.

A pictorial diagram of the relationships of these different higher order thinking skills is displayed below.



As this figure indicates, synthesis and integration act as a culmination of the assessment done throughout a literature review. While developing them, you will use the insights into the literature available on your topic that you've gained by examining that literature from multiple perspectives to create your overall picture or conclusions.

Having created your synthesis and integration, you can apply each smaller evaluation of literature you've developed to your synthesis and integration to determine what important insights you can gain into how that framework helps you understand your topic. By evaluating everything you've read for its applicability to your specific situation, you optimize your opportunity to either develop a proposal for action (simple or applied literature review) or develop a strong justification for the study you will conduct (academic literature review).

What is the point of this section? None of the critical thinking skills or processes can stand alone. You must apply them all effectively and realistically to the information you acquire to create a sound literature review—one with an optimal opportunity to impact and inform your readers.

So, although your literature review can feel like numerous repetitions of examination of the same material, each of these steps examines the information in a slightly manner using a slightly different perspective or technique. Your consideration of the same information from different perspectives helps you ensure an objective, useful literature review. It also helps you build your information logically to develop an ever larger picture of the information you're gathering.

Practice

Re-examine your comparisons, contrasts, and evaluations. Have you missed any synthesis or integration points you might have otherwise included in your literature review? If you have, develop them now.

Discussion or Writing Activity

Read your literature review as it stands now. Recognizing that it's probably still a work in progress, consider how it reads at this point. Identify whether any of your analyses, comparisons, contrasts, evaluations, syntheses, and integrations contradict other materials. If so, consider how to reconcile these materials. Alter your Critical Thinking Chart and literature review draft appropriately.

Organizing Your Assessment of the Literature

It may seem strange to be considering this when you've already written your outline. However, your outline should be a living organism that can change as a result of your research. Although you had some basic ideas about what you wanted to cover and in what order as you began your research, often the information you discover or find useful is substantively different from the information you believed would be available. In addition, as you identify the syntheses and integrations that create your framework, you may conclude a different method of organizing your review will make it clearer or more effective. So, reviewing your outline and potentially reorganizing your literature review at this point—when you're in a position to clearly recognize the relative value of different organizational methods based on the information you have to share—can help you ensure you produce the best, clearest product possible.

Some people believe that, when writing literature reviews, writers should examine each article in order. Using this theory, examination and ana-

lysis of all of the articles should be presented in the first section. Following that, all of the comparisons and contrasts should be presented. Syntheses and integrations should come next, and should be followed, finally, by evaluations and conclusions.

You can use type of paper presentation, but it can limit your ability to present arguments effectively. To consider how your thinking can be presented, let's look at several different layouts for tables of contents.

<i>Table of Contents 1:</i>	Table of Contents 2:	Table of Contents 3:
<i>Introduction</i>	Introduction	<i>Introduction</i>
<i>Analysis of Literature</i>	Ages 1-5	<i>Parents' Roles (This represents examination point 1.)</i>
<i>Comparison and Contrast</i>	Ages 6-10	<i>Teachers' Roles (This represents examination point 2.)</i>
<i>Evaluation Against My Special Topic</i>	Ages 11-14	<i>Community's Roles (This represents examination point 3.)</i>
<i>Synthesis and Integration of Literature</i>	Ages 15-20	<i>Students' Roles (This represents examination point 4.)</i>
<i>Conclusions</i>	Adulthood	<i>Synthesis and Integration</i>
	Synthesis and Integration	<i>Conclusions</i>
	Conclusions	

As you can see, you can organize your essay differently to make your research most understandable to your readers, depending on the information you have, your comfort writing, and the complexity of the information you have to share. You can organize simply by research article (although this isn't good, so it won't be discussed here) or by critical thinking skill used, by time-frame, or by factor or subfactor (which are more sophisticated)..

Let's look at each in a little more detail here.

Table of Contents 1 presents an example of separating different higher order thinking skills so that readers can follow the information logically and easily. It is a good basic structure. Each piece of information can be easily identified and presented so that you, the writer, can make sure you've made all of your points, as well. This version of a table of contents is always acceptable, but there are times when it can actually be a drawback. Let's look at Table of Contents 2 to understand some of the drawbacks Table of Contents 1 may present.

Table of Contents 2 separates information being examined by time period. This is good when handling information that applies to different physical or geographic ages or different periods in history. This type of organization let's you, the writer, separate information dealing with a specific period from information dealing with another specific period. What does that mean? When you provide information that cuts across ages or time periods and is separated by thinking skill type to your reader, for example, it can be easy for your reader to get confused about what's supposed to happen or to have happened during which time period or during which developmental stage. In such cases

where timelines are important, it can be easier for readers when you provide information within the structure of time frames. At the end, conclusions based on the synthesis and integration of that information can be presented either as specific time periods discussed separately or with all ages or time periods discussed together.

Table of Contents 3 separates information in the literature review by the factors examined (in this case, the groups of individuals discussed). The benefit to this type of design is that it's easier for both you and readers to identify the relative roles and variations in character and impact of the different factors (and subfactors) being considered. If you use Table of Contents 1 as your literature review organization in this case, both you and your readers would have to shift your attention between the different thinking skills to draw conclusions about the same point in different parts of your literature review. That shifting between sections of your review to read first analysis, then comparison and contrast, and so on, can make it harder for you and your readers to follow the logic you used during your research process. In other words, sorting information by factor lets your readers understand all of the characteristics and important points about each factor before moving on to the next factor. This can make this organizational method feel more organized than Table of Contents 1 as a result.

There are several other methods of organization possible. They are considered here.

A first is organizing your literature review based on *trends*. Organization by trend involves organizing articles, comparisons, and contrasts to consider trends that are identified as evolving in the literature. This could include management

trends, trends in behaviors, trends in responses to stimuli, or analysis trends.

A second is organizing your literature review based on the *themes* you identify in your literature. Using this method, you would sort your information based on topics. Topics could be groups, as described above (i.e., family, community, school, or gang) or organizational structure (i.e., system, individual, neighborhood, community, or state). It could include diseases, treatments, and cures.

Your selection of this organizational method depends in large part upon the question with which you began. In other words, if you identify that there are themes based on the size of a group being examined but also identify that size has little to do with differentiating results or sharing important information, you shouldn't use it as an organizational theme.

A third organizational method to use would be sorting information by research methods used. Those methods might become important if you feel the methods made a difference in results. In most examinations not directly related to methodology, this would be an organizational method subsumed in a larger organizational structure. In other words, your organization is by group.

Your groups might be:

1. parents
2. teenagers
3. children

4. grandparents

You might find that results are different based on the research method used:

1. statistical analyses
2. interviews, questionnaires, and observations
3. quasi-experimental and experimental studies

Your organization might look like this:

1. Parents
 - a. Statistical analysis
 - b. Interviews, questionnaires, and observations
 - c. Quasi-experimental and experimental studies
2. Teenagers
 - a. Statistical analysis
 - b. Interviews, questionnaires, and observations
 - c. Quasi-experimental and experimental studies
3. Children
 - a. Statistical analysis
 - b. Interviews, questionnaires, and observations
 - c. Quasi-experimental and experimental studies
4. Grandparents
 - a. Statistical analysis
 - b. Interviews, questionnaires, and observations
 - c. Quasi-experimental and experimental studies

Which organizational model is the correct model for your literature review? It depends on what you're examining and how you can most clearly present your information. Does your material lend itself to a discussion of trends, of time periods or themes, of authors' or theorists' perspectives, or of research used? Remember, Table of Contents 1 will never be wrong, although it won't necessarily ever be your best choice. In fact, it will often *not* be the easiest model for both you and your readers to easily navigate or to help all readers with understanding and retaining the information you have to share.

Practice

Using the information you will present in your literature review, re-examine your initial literature review outline. Consider the critical thinking results you've developed. Restructure your outline to reflect the table of contents model that will present your information most effectively.

Discussion or Writing Activity

Reorganize your material using the organizational method you've selected. In addition, consider your headers and the transitions you need to develop to make the literature review most effective.

Separating Your Ideas from Authors' Ideas

The authors you read will make observations, comparisons and contrasts, syntheses and integrations, and evaluations, just as you will. Some of them will be important to share in your literature review. If you share that information correctly, your literature review will be stronger. If you share that information incorrectly, your literature review will be confusing, because your reader will be unable to differentiate between your ideas and those of the author or authors whose thoughts you're paraphrasing.

Sharing your thoughts incorrectly in your literature review can not only create confusion, it can cause others to question your integrity if they believe you're attributing your thoughts to the author whose work you're paraphrasing or the author's thoughts to you. If that occurs, your readers could not only believe you're attempting to bias or falsely report the information you've read to support your own agenda (the first situation), they could also assume you're trying to claim credit for someone else's ideas (the second

situation). So, how do you keep your ideas and your authors' ideas separate without using first person to make comments like, "I conclude, I believe, or I notice" or awkward comments like, "the author concludes, believes, or notices?" There are several ways you can accomplish it. Examples follow for your review and evaluation.

Example 1:

Smith (2004) says brownies are the most addictive substance in the world. Based on the Standards for Avoiding Addiction, this study indicates brownies should be avoided. There are inconsistencies in the analysis, though.

Note that in this example, there is no separation of the article's substance and the writer's ideas. Was the comment on the Standards for Avoiding Addiction part of Smith's study, or was it the writer's idea? Was this completely cited?

Example 2:

Brownies have been found to be the most addictive substances in the world. In fact, using the Standards for Avoiding Addiction, people should avoid eating brownies (Smith, 2004, p. 23). However, there appear to be inconsistencies in the data analysis of the study drawing those conclusions.

Note that this version is acceptable. By placing the Smith citation between the article's information and the writer's observations, the two pieces of information are easily identified as separate and from different authors—you or Smith. Note, though, that there could be confusion about the placement of the page number in the citation. Because the placement of the citation there with the number indicates that

the source of all information presented before it is from that page, the page number should only be presented in that manner when all information shared previous to the page's citation does in fact appear on page 29 in the original text.

Example 3:

Smith (2004) stated that brownies are the most addictive substance in the world. Based on this information, Smith determined that the Standards for Avoiding Addiction dictates people should avoid eating brownies (p. 23). However, inconsistencies in the analysis of brownies' addictiveness raise questions about Smith's conclusions.

Note that this version is acceptable. First, it identifies that the initial information provided comes from an article written by Smith in 2004. Second, it provides the page number from which the information provided was drawn. That page number also separates Smith's ideas from the writer's. Finally, it cites Smith as separate from the observation being made.

Let's examine one more set of examples. Watch for the pattern.

Example 1:

Once every 15 years, locusts come out and ravage the population. They can devastate the land. It appears they can do more damage than Agent Orange. These locusts can eat 17 times their body weight (Smith, 2004).

Note that in this case both facts provided by the Smith (2004) and the author's thoughts on those facts are intermingled in this paragraph. Unlike the

first set of examples where the author being discussed was cited first, the author is cited last. However, the lack of separation between the cited author's and the researcher's comments makes this paragraph ineffective.

Example 2:

Based on current research on locusts, it appears they may be more damaging than Agent Orange.

According to this research, once every 15 years locusts hatch that eat 17 times their body weight daily before dying at the end of their life cycles, some 30 days later (Smith, 2004, ¶ 23).

Note that this example is technically acceptable because it identifies the point at which the research paraphrasing begins with the phrase according to this research. However, it can still be confusing. Did Smith develop the comparison between locusts and Agent Orange?

Example 3:

Once every 15 years, locusts hatch that eat 17 times their body weight daily before dying themselves 30 days later (Smith, 2004, ¶ 23). Based on this information, it would appear locusts could be more damaging to local foliage than Agent Orange could prove to be if used.

Note that this is the best separation of the authors' and researchers' ideas. It presents the information, just as in the other set of examples, at the beginning of the paragraph. It places the citation between paraphrased information and the writer's ideas. It uses appropriate words like seems, appears, and is possible to differentiate between

information presented by the cited author and the conjectures, illustrations, and observations made by the writer.

Practice

Review your draft of your literature review. Identify any areas where readers might not be clear about your comments and the comments of the authors you have read. For those areas, rewrite those materials.

Discussion or Writing Activity

Consider any new applications you can identify using your comparison, contrast, evaluation, synthesis, and integration skills. Expand your work to include those new points.

Peer Reviewing

If you're creating a literature review for a dissertation, you have a committee that can act as peer reviewers to help you improve your work. Otherwise, you might have some other official who is in charge of supervising your work and giving you feedback. If that's the case, often that person will define how the review is conducted and will provide you with guidance about the clarity and presentation of your work. That supervisor will probably dictate how that feedback is provided. If you have the chance to encourage your reviewer to use a specific format, I suggest you review this chapter and provide suggestions to your reviewer about considering this reviewing format. If you're going to do a peer review of someone else's work, the following information can help you maximize your assistance them (or to yourself, if you do your own peer review, as discussed later in this section).

Why do a peer review or simulate a peer review?
Peer reviews give you a chance to learn by:

1. Examining someone else's work (or your own work) to review effectiveness.

2. Reflecting on your own work based on what you've learned during conducting reviews.
3. Develop a plan to improve your own work based on your new insights.

You can learn from a peer review even if you don't have a chance to conduct a peer review on someone else's literature review. You can do a review of your own literature review, although you need to practice objectivity if you do that. (One of the purposes of having someone else do your review is to gain the benefit of objectivity. Since you're close to your work, you may be unaware of pieces of your logic or your argument presentation that are ineffective or are missing. This will be a challenge you'll need to keep in mind as you read if you do your own review, but is one that you can conquer.)

In addition or as an alternative, you can conduct a review of other, published literature reviews. This gives you the chance to review similar types of literature reviews—simple, applied, or academic. Suggestions for that type of review are included in the following chapter on conducting reviews of published literature.

Why are there so many different methods of conducting reviews of literature reviews? Not everyone benefits from the same information or presentation. This outline form, suggested for peer reviews, provides the person whose work is being reviewed with information on strengths and weaknesses in outline form, which can help that person make changes to the content and format of their literature review more effectively.

The format used for reviewing published works allows the reviewer to examine a literature review that's been successfully completed to identify methods that work.

Peer review of your own work. Before going any farther, though, consider for a moment how you can do a peer review on your own work. Often, writers become so familiar with their writing that they can't review, edit, or proof their own material well. How can you break through that familiarity wall that can interfere with your ability to identify your own writing's problems? The answer can be simple.

How much time do you have to complete your literature review? It will be possible for you to do your own peer reviewing relatively objectively if you can do several things:

1. Give yourself a break of two weeks or more before shifting from writing your materials to reviewing them. If you wish to continue working during that time, you can do your reviewing in sections. Work on one section as you review another. That will give you time to allow for a needed break from your work so you can review it with a fresh, less-familiar perspective that will let you examine it more objectively.
2. Read the literature review when you have time to pay close attention to what you're reading. Remember, this is not a simple read for interest. It's a detailed, in-depth read for methods, content, and logic.
3. As you read, develop the outline suggested in this section.
4. Try to complete your reading and outline of the literature review or of the selected section of your review in one sitting. Doing that will

give you the best chance to read into your paper only what's there, as well as to not lose the flow of your review so you can identify where your material is not easily read and, as a result, not quickly understood by the average reader.

5. If you've finished your paper, don't try to read it all at the same time. Read about 20 pages at the most at a time so that you stay fresh and attentive.

To do either someone else's peer review or your own, you can read the draft and complete an outline of the points made by the writer and the authors the writer chose to cite in the literature review. Finally, you can answer the following questions about each article used in the point.

1. Was that article choice appropriate?
2. Did the article share the information the author indicated was intended?
3. Was the information about the article written concisely so that no extra words, particularly extra prepositional phrases, are used?
4. Was the information integrated well so that the presentation is logical and easy to follow?
5. Was the point the writer was trying to make made effectively?

This is an example of what a peer review outline might look like:

1. Introduction
 - a. Topic question — What impact, if any, would a Fortune 500 management training program have on teachers' management effectiveness within their classrooms?

- b. Topic subquestions examined here
 - i. What is known about teachers's roles as managers?
 - ii. What similarities and differences exist between teachers as managers and Fortune 500 business mid-level managers?
 - iii. What training occurs currently for teachers as classroom managers?
 - iv. How effective is the training currently occurring for teachers as classroom managers?
 - v. What similarities and differences exist between teacher training programs and Fortune 500 business mid-level manager training programs?
- c. Why important—
 - i. Current breakdown in class management—James, 2004—effective; Irving, 2001—acceptable, but weaker
 - ii. Breakdown in classroom management affects education, safety in classroom—James, 2004—strong; —connection not made well—Irving, 2004—weak

2. A Comparison of Roles

- a. Discussion of nature of teacher

- i. Smith (1925, p. 23)—teacher caregiver
 - 1. Smith considers only younger ages, not older
 - 2. Smith study interview sample small
- ii. Jones (2000, p. 25)—“a teacher is perceptive and interceptive”
 - 1. Does not reinforce Smith, but doesn’t contradict
 - 2. Interviews with teachers of students at different ages
- iii. Examination points
 - 1. Two are not same, but fit together—point successful
 - 2. Teachers’ perceptions of their roles is important—author observation, point successful
 - 3. Teachers’ target groups affect their perceptions of roles—author observation, evidence not well connected

Practice

Develop reviews of others' literature reviews, and then develop a review of your own literature.

Discussion or Writing Activity

Review your narrative of your literature review. Rewrite the literature review narrative. Make it no more than 250 words. This can serve both as an abstract for your literature review and as a clarification of your final literature review that will allow you to discuss it with others.

Reviewing Completed Publications

Why conduct a review of a previously completed publication that contains a literature review? How can you benefit from it? You can see how a final literature review looks. You can see how it's structured and how it's phrased. You can examine similarities and differences between both the content and format of your literature review and its content and format. You can identify areas you'll want to examine and revise in your own work.

There are numerous forms that could be developed to review completed literature reviews and publications. One that's useful is provided in the previous section on peer reviewing. It allows you to examine both overall and detailed goals and the logic presented in the literature review. Another is in the following chapter. The first—in the previous chapter—gives you a chance to examine the flow of the literature review, while the second—in the following chapter—allows you to examine the effectiveness of the logic and presentation of specific points more closely. Both are beneficial.

Were you ever a debater? If you were, you've seen the flow sheets debaters create. It's what an out-

line can give to you that a simple list of questions cannot. You literally chronicle each point being made, the nature and quality of the evidence presented, and whether or not that point falls to your opponents' side or your side. (For techniques that help debaters *flow* debates better that may also help you plan your review better, visit the following site to get information on debating:

<http://debate.uvm.edu/NFL/rostrumlib/CheshierNov00.pdf> .

Adapting the information shared on that site, here are some questions to ask and procedures that will help you in your review:

1. Practice outlining and reviewing every chance you get. If you read a peer-reviewed article or someone else's literature review included in a dissertation proposal or grant application, practice reviewing it to see how the literature reviews are strong or weak and, where strong, how they're worded or organized.
2. Pay close attention to overviews—do they include everything they need to include to allow a strong logic flow? What techniques do the authors' use to make them strong and to present the information interestingly and effectively?
3. Give yourself space to create your outline and review. Maybe you'll find a modified clustering organization a better way to review a given literature review.
4. Pay attention to the citations and the quality of the sources. Are peer-reviewed articles or unbiased sources and local sources used appropriately? Based on the quality of the sources and what they say,

are the conclusions drawn by the author appropriate?

5. As you flow, make sure you include enough details about the literature review to understand your flow of information when you return to it later. Otherwise, you'll be unable to glean any information from it that will help you with your own literature review. Speaking from experience, short notes about something that makes a strong impression on you at one point may not mean much a month later after you've read a number of other pieces.
6. Make sure that you write legibly and that you stick closely to whatever organizational design you use for your review. As you progress, depending on the length of the literature review you are yourself reviewing, it can become easy to lose track of your organizational form or the organizational level at which you are.
7. As much as possible, put the information you write into your own words. It will both ring truer to you and will prevent you from inadvertently plagiarizing anywhere in your literature review process.
8. After you've completed your review of the literature review, give yourself a day or so to walk away from the analysis of the review you've created. When you've gotten some distance from the work, go back to your review. Does it have everything you need? Do you have any questions about what you read or what you wrote?

Remember, when you review a completed literature review, your goal is to determine whether the logic is effective, whether the documents used support the arguments presented, and whether

the conclusions are valid. To do that, you must often follow each step of the logic and documentation path, as the outline above indicates.

Errors don't occur in the large, obvious brush strokes of most paintings. Neither are errors in literature reviews normally easily identified by examining the large arguments that are constructed with the series of smaller arguments examined in them. Since they occur in the small, less-than-obvious details, your job is to find those less-than-obvious errors, if they exist. What's your goal? It's to guarantee that, before accepting the conclusions drawn in any literature review, you're sure those conclusions are based on accurate information interpreted correctly.

As you review this and all future literature, remember the six higher order thinking skills, remember your article analysis process, and consider creating an outline to see how effective and accurate the discussion of literature is.

Practice

Read and review several literature reviews. Practice putting in as much detail as useful. Review materials to determine whether arguments are presented logically. Are there any pieces missing? Is the logic path direct and clear? Use the peer review questions as guidelines for your reviews.

Discussion or Writing Activity

Develop written narratives of the strengths, weaknesses, conclusions, and relative value of each of the published literature reviews and articles you examined. Make your discussions of each literature review and article no more than 500 words, and describe in them the quality of the work included, the major points and conclusions, and their importance to creating research or change projects of some type.

Other Resources

<http://www.utoronto.ca/hswriting/lit-review.htm>

Expanding and Revising

Expanding a literature review and revising it are part of a conscious plan to improve its quality. This expansion and revision plan can be developed after either receiving a peer review of your literature review draft or after conducting your own self-review of your literature review draft. This review process gives you a chance to evaluate the effectiveness of your writing; identify areas that need to be strengthened, trimmed, or eliminated; and consider what steps to take to correct any identified issues.

To help you with this process, some questions are presented below. Either you or your peer can answer these questions using the perspective of an evaluator or editor rather than of the writer. By doing that, you can create some distance from the words and ideas you've written. Since people can experience the same attachment to and sense of protectiveness about their work as a couple when they have a baby, developing that distance is essential to honestly evaluating your work.

Since the questions are framed to create as much objectivity as possible, answer the questions as

they are phrased. These questions can provide the basis of your plan to expand and revise your literature review.

1. Was the initial question you used clearly or unclearly stated? If you have more than one initial question, which of them were clearly or unclearly stated?
2. Which of your initial questions were well supported by logic and evidence and which needed extra logical and evidence support?
3. Which of your subquestions were logically organized to allow sequential consideration of the areas involved in the examination being pre-sented and which needed to be reorganized or strengthened?
4. Which of your subquestions were clearly and unclearly stated?
5. Which of your subquestions were supported with adequate research evidence and which needed extra research evidence?
 - a. Were there any assumptions made in the logical presentation of information that might make the argument weaker?
 - i. Can the argument be tightened up with other literature?
 - ii. Do any of the comments that were not conditional need to be made conditional (potential concerns or observations rather than statements)?
 - iii. Does this part of the argument need to be dropped?
 - b. Were there any limitations to any evidence used in subquestion arguments?

- i. Does an article look at a group unlike the group being examined in the literature review as a whole or with limited similarity to the group being examined?
 - ii. Does an article cover unique or unusual periods of time or events that limit its ability to help with overall subquestion or argument consideration?
 - c. Was the evidence used correctly interpreted?
6. Were the conclusions logical?
- a. Were they based on systematic, realistic examination of the data?
 - b. Were they appropriate to the types of studies and data provided in the articles used?
 - c. Did they integrate all of the data, or were they biased?
 - d. Were they presented logically?
7. Were the conclusions clear?
- a. Was the relationship between the questions and conclusions clearly stated?
 - b. Was the relationship between the questions and conclusions logically presented?
 - c. Were the conclusions appropriate to the questions and the data?
8. Were the conclusions linked effectively to the initial questions and subquestions?
- a. Were the questions restated, either directly or indirectly?
 - b. Was the link between the questions and conclusions stated clearly?
 - c. Was the link between the questions and conclusions linked to the importance of the

questions and conclusions? In other words, did the “so what” question get answered?

Once you’ve completed this series of questions, consider what that means to your literature review. What changes do you need to make?

One way to plan your next step is to return to the interview you’ve created. Note on the interview what you need to alter, and make a plan to develop those alterations. What do you need to augment with additional research? What do you need to cut? What plan will you use to make your improvements?

Practice

Conduct a practice peer review on Chapter 2 (Literature Review) of at least two dissertations using the questions and outline above. Dissertations have a chapter (Chapter 2) that is normally designated as a literature review, as those of you writing this literature review for that specific purpose know, so they make good sources of practice for reviewing literature reviews. Following that, conduct a self-review of your own literature review.

Discussion and Writing Activity

Draft an outline of changes you wish to make to your literature review based on your self-review. In addition, rewrite pieces of information you identify as needing improvement.

Structuring Your Work

As discussed earlier, the organization you use as you present analyses, comparisons, contrasts, evaluations, syntheses, and integrations does not have to be set in stone. What does matter, though, is that readers can follow your logic. So, here are some important facts for planning your presentation:

1. Is your analysis clearly linked to the article you're analyzing?
2. Have you clearly presented which articles you're comparing and which you're contrasting?
3. Can the reader tell when you're shifting to evaluating the literature against your topic, question, or circumstance? Do you introduce this shift to clarifying the strengths and weaknesses of the articles?
4. Can readers tell when you shift to and from your own assessments and the assessments and conclusions of the authors you examine, as well as when you shift to evaluating against your topic, question, or circumstance?

5. Do you use your synthesis and integration as a capstone, or culmination of your research, before your conclusion to help you and your readers see what does or does not fit into the overall picture?

Much of your decision about organization will be based on whether you structure your review around researchers or around topics. If you review researchers—researcher 1, researcher 2, researcher 3, and so on—then your article summary and analysis will often be separate from your analysis and be presented first before your other examinations or assessments. If you review topics—the price of tea in China, the price of tea in India, the price of tea in Europe, and what that means to the price of tea in the United States—then your article summaries, analyses, and comparisons and contrasts will often be combined under your topic headings. Your synthesis and integration will virtually always come separately just prior to your conclusions, regardless of what type of organizational design you use.

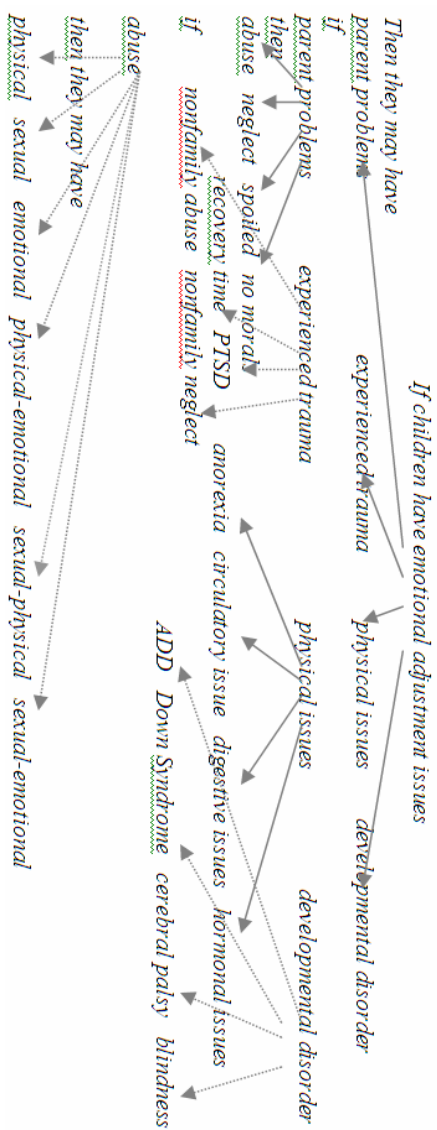
How can you identify what structure will work best for you? First, consider your question. Second, examine your research. Is the information you're gleaming from the articles addressing your subject separating around theorists? Or is it separating around events, dimensions of a topic, or another topic-related characteristic? Determining which organizational structure to use for your literature review doesn't have to be complicated. Often the research itself will help you identify what structure would be best to use.

So, as you consider how to structure your literature review, it's helpful to review your outline. Consider what you're discovering in your literature. What are your main points? Are they

sorting themselves centered around theorists, events, or specific situations? Possibly, there's no clear direction in which the information is sorting itself. If that's the case, then any structure is as good as another. However, if there is an organizational structure suggested, it would be best to use that structure.

As a final step, consider the logic presented in your review by drawing an if-then diagram. An example of an if-then diagram follows.

If-Then Diagram



This is obviously not your standard if-then chart. There's a reason for that. After several attempts to make a traditional if-then chart work, I recognized that the multiple cause environment experienced most often in literature reviews is not conducive to creating an easy-to-read traditional if-then diagram. So, I developed this cluster-style if-then diagram instead.

Why didn't a traditional if-then diagram work? As you can see on the diagram, direct if-then links have been created. However, since no direct causal relationships can be identified through literature reviews and literature reviews are meant to be objective considerations of multiple perspectives, a cluster if-then chart is one of the easiest ways to accommodate these multiple if-then possibilities.

When you examine this chart closely, you'll notice that abuse and neglect are listed as *thens* for family and nonfamily trauma issues. As you develop your literature review, considering whether traumas occurred within the family or outside the family become important because of the difference in impact abuse from those two sources might be. It is also important to mention each step so that no steps in the correlational links you or someone else presents is missed. So, as you draw your if-then chart, you need to consider whether you have documented and expressed every link on the if-then chart.

Practice

Examine your review. How have you structured your paper? Review past materials on organization. Do one final review here of how you've organized your review using the above final criteria.

Then, when that's done, sit down and draw an if-then diagram for every logic link you're presenting in your literature review.

Discussion and Writing Activity

Restructure any portions of your transitional materials required. Make sure that your logic lines, connections between ideas, and other relevant structural points are effective.

Formulating Introductions

Formulating strong introductions can catch your readers' attention and strong conclusions can make your writing not only quality but also interesting. So, catching the readers' attention in the first few minutes can make a great difference.

Introductions don't have to be dry statements of interest in a topic. Here are a few ideas you can use when thinking of how to plan your introduction.

1. What was it that got you interested in the topic? Can you share that in your introduction to get the readers' attention?
2. What is the main point of the theoretical framework you've developed from your literature review? Can you use it as the main point at the beginning of your introduction?
3. What is the importance of your review? What "so what?" answer does it help you address? Can you share that to get your readers' interest?

As you consider these questions, remember that your literature review's introduction should dis-

cuss your topic in the initial paragraph. It doesn't have to say, "This is my topic." It should somehow describe, consider, or discuss it, though. Why? The reader should be able to understand at least what your topic is going to be as the paper begins.

Remember, too, that a paragraph is made up of a topic sentence, sentences that describe and explain your topic sentence by giving greater detail, and a sentence that leads into the next paragraph or next topic. Why is this important? This paragraph structure lets your reader understand quickly and explicitly what you're examining. It also makes your work *flow* so that you don't lose your readers with complicated sentence and paragraph structure before you begin to share your literature review.

Your introduction should begin with your basic topic, explain why it's important, and describe what your perspective or interest is. Then it should segue into the review of literature.

In addition to using the information provided here, read the introductions to a number of peer-reviewed articles and dissertation literature reviews. This review will give you a greater understanding of how a number of introductions are constructed.

Meanwhile, here are a couple of introductions to help you get an idea of how to formulate an introduction.

Introduction 1:

Unlike many classrooms utilizing autocratic management methods, democratic classrooms both alter students' perceptions of their classroom experiences and shift the teacher out of the posi-

tion of class autocrat and into the position of class facilitator. Schechtman (1993) determined that students in democratic classrooms developed greater senses of belonging and of freedom to express their feelings, as well as greater opportunities for sharing. They developed more open communications and stronger feelings that justice, rather than arbitrariness, occurred within their classes. They demonstrated more responsible behavior in other classes. They also demonstrated greater respect for themselves and others both inside and outside the classroom.

Based on this and similar research, morality educators developed the Just Community Model, where restructured high schools allow small groups of students and teachers to form democratic communities in which each person has one vote. Because Just Community Model teachers and students are equals, students are encouraged to tackle issues like justice, fairness, and democracy. They are encouraged to actively participate in reshaping their worlds to create equity, to self-define, and to develop self-empowerment (Tappan, 1998).

The school examined in this study evolved a model that uses democratic education that had profound impacts. Originally designed as an alternative program for pregnant teens, it evolved to serve potential high school dropouts and to have a goal of empowering students for educational and life success by positively affecting their self-esteem and senses of equity. (from Dawidowicz, 2006, p. 6)

Notice that the article introduces the concept of democratic classrooms creating an impact on students' attitudes. It describes an educational community model. Finally, it introduces the fact

that a specific school is being examined, the school's purpose, and that the study of that school is going to evaluate the effectiveness of democratic classrooms for changing students' attitudes.

Introduction 2:

During adolescence, students execute the final stages of self-definition that carry them into adulthood that cyber learning can impede, but does the Electronic High School model provide them with the "best of both learning worlds?" Students test their personalities and behaviors in various situations against the expectations and reactions of others. As others respond to their behaviors and choices, adolescents re-define and hone their actions and reactions enough to form behavior episodes that stabilize their personalities. This period of growth and self-definition proves extremely important. Cyber distance learning negates the opportunity for participating adolescents' to fulfill those socialization growth needs by eliminating the regular interaction they experience during traditional high school attendance (Ho, Lempers & Clark-Lempers, 1995; Field, Lang, Yando & Bendell, 1995; Liu, Kaplan & Risser, 1992; Pabon, Rodriguez & Gurin, 1992; Ford, 1992). (from Dawidowicz, 2002, p. 62)

Notice that this article jumps right into the topic. However, the author doesn't say, "This is what I'm studying." Instead, the author begins to explain the nature of the problem and to introduce the interests to be considered in the literature review.

Introduction 3:

The cold March wind cut through the coats of the members of the Continental Congress as they ratified the Bill of Rights in New York City in 1789, but the fire that burned in their hearts kept out the chill. That fire burned for the rights they had just guaranteed their families and their descendants, the first of which was the right to the free practice of religion. (Dawidowicz, 2001, p. 1)

Notice that this introduction is literary. It is the introduction to a dissertation as a whole, not to the Chapter 2 literature review. You can use a literary introduction, as long as it's brief. However, this type of introduction is normally used for a dissertation or a larger piece of literature than a literature review. The introduction for the literature review of this particular dissertation looked like this.

No direct research exists on the evolution within Utah of either the education systems or students as a result of the increasingly heterogeneous environment. Therefore, this literature review covers materials that lay the groundwork for understanding and assessing educational environment changes and students' behavioral changes in Utah's newly heterogenized and heterogenicizing high schools. Since Utah is in the process of cultural diversification, each formative factor will be addressed as it occurs both within the country at large and within Utah's unique traditional culture. (Dawidowicz, 2001, p. 19)

In other words, whether you're writing an introduction for the literature review of a dissertation, an article, or a study, you're going to write a simple, direct introduction. However, if you're creating an introduction for a larger piece and

wish to create interest in your topic before you begin your literature review, you can create a longer, more detailed introduction.

Practice

Review the information provided in this section. Consider your literature review topic, as well as the topic of your larger piece if your literature review is part of a larger piece. Consider what points would be important to share in the introduction. Draft an introduction for your literature review. In addition, if your literature review is part of a larger essay, create an introduction for that piece, as well.

Discussion and Writing Activity

Review your introduction. Consider whether it shares the information you should share to introduce your topic. Does it share your passion about the topic? Does it share enough information to lay a strong groundwork for your reader? Rewrite it as appropriate.

References

- Dawidowicz, P. (2006). Using administrative style to increase student self-esteem, empowerment, and responsibility. *Positive Change Quarterly*, 1(1), p. 36-71.
- Dawidowicz, P. (2002). Addressing required adolescent socialization in the distance learning environment. *Strong Educational Communities*, 1 (3), p. 62-73.

Dawidowicz, P. (2001). *"Sometimes you gotta learn the concept, not just the rules": Educational and cultural impacts of Utah's diversification process.* Ann Arbor, MI: UMI Press.

Formulating Conclusions

What make strong conclusions that summarize exactly what you want to share? Regardless of the type of literature review you're writing, a conclusion should restate:

1. Your topic or question.
2. The reason your topic or question is important.
3. The main points your research revealed.
4. Your conclusions.
5. What it means to your next step—your research study, your design, your grant—or your, “so what?”

So, here are some examples.

Conclusion 1:

These data indicate wide-ranging applications. Perhaps most important is the nature of a religion-based society itself. Data indicated that moral education in such a society

is passive, normally left to parents, but that notable numbers of parents may for whatever reason surrender that right and responsibility to others without concern for the quality or nature of education received by their children. Others might simply neglect to fulfill their moral education responsibility.

This study suggests further, that the distinction between living one's culture and living one's religion may merit further investigation. Certainly, the pregnancy rate in the undiversified area raises the question of whether religion as culture becomes a less binding and effective moral compass or, perhaps, a totally ineffective moral binding or compass. It also indicates further investigation into the effectiveness of having a state institution mandate localities' moral education policies and procedures would prove useful, since those programs' effectiveness are reliant upon the dedication and follow-through of local teachers and administrators.

It also raises the question of whether or not changes or challenges from outside a culture should be considered, at least in some cases, worth the potential negative effects. As a result of immigrant influxes, state residents raised their expectations for honesty and acceptable behavior from individuals in office and public servants. In diversified and diversifying areas, parents and public officials reaffirmed their rights and responsibilities to participate in their children's positive enculturation. The question continues to be whether the potential positive effects outweigh the potential negative effects. Such reactions as gang formation were negative. However, the galvanizing effect of challenges to belief

systems and reaffirmation of goals also evidenced in diversified areas among teachers and students also indicates that challenge to enculturated religion can also be positive.

Given the increasing diversification of state and world populations, these questions merit further investigation. Certainly, Utah's culture will continue to change. As the state becomes more diversified, researchers will undoubtedly examine through extensive studies both the short-and long-term to verify whether adolescents' exposure to multiple moral choices, like absolute power, will corrupt absolutely. To determine the reality in Utah will no doubt require extensive study. (Dawidowicz, 2003, p. 288-289)

Note that at the point where a conclusion is created, there are no citations. This is a place for summary and driving home the points evolved in the literature review.

Notice, further, that this conclusion also includes a description of the types of future research that should also be included. This is something you may also find relevant as you develop your literature review. What was on your cluster diagram on which you could find no research? What was on your cluster diagram that you didn't explore that would be important to consider in future research? Those can be important points to be shared here.

Conclusion 2:

Since this study explores changes in behaviors that develop as a result of a number of factors, it proves important to understand

how both variations in and the interactions of these factors can further exacerbate already potentially difficult situations. Inadequate and insensitive educational facilities and personnel, population shifts, single-parent families, low socio-economic status, negative peer influences, inadequate character education within the home, and lack of student acceptance of responsibility number among such combining factors. These factors will be examined briefly to create an understanding of the potential effects of these factors that will allow at least partial contextualization of study results. Although no causal or quantifiable correlative relationships will be identified, this data will allow effective consideration of future potential clarifying research questions.

In Utah, by both federal and state law no information is either available or can be gathered within the schools on the numbers of single-parent families, the nature of activities within the home, individuals' religions, or individuals' moral or activity choices without special approval. Therefore, information will not be gathered from students themselves, but through others' observations of students' activities and educational systems' changes.

However, as data is gathered from individuals to be interviewed, some insight into whether school staffs' are either inadequate and insensitive or adequate and sensitive. Although this information may be identified, it will not be the focus of this study except as it pertains to the evolution of Utah's educational system as a result of the cultural diversification process. It will, however, al-

low researchers to begin to draw a picture of what life within Utah's new multicultural schools is like that will prove useful in future studies.

Impact on Research Design

Information gathered during the literature review indicated that recent Utah laws forbid individuals from gathering information within the schools on the numbers of single-parent families, the nature of activities within the home, individuals' religions, or individuals' moral or activity choices without special approval, and little if any information existed from state-acceptable research sources. Therefore, information was not gathered from students themselves, but through interviews with adults who had observed students' activities and educational systems' changes.

Further, due to the inability to enter any schools other than the X School and the X School for the purposes of observation, direct student observations could not be conducted. Therefore, it proved impossible to observe both student-teacher and student-student interactions directly.

However, as data were gathered from individuals interviewed, those individuals shared some insight into whether they believed school staffs are either adequate or sensitive to students' and parents' needs and expectations or were, conversely, inadequate and insensitive. This information allows researchers to begin to gain greater insight into what life within Utah's new

multicultural schools is like, which can prove useful in future studies.

The inability to conduct direct observations precluded the examination of all facets of student communication, conflict, and moral behaviors. Therefore, for the purposes of this study, communication behaviors examined did not include nonverbal behaviors or ethnic-specific expression differences and shifts. Instead, it included indications of language shift, particularly to the use of profanity or hate language directed at any group. It also included evidence of effective or ineffective communication as indicated in various reported sources and interviews. Conflict behaviors examined included violent and argumentative incidents, examined both for numbers of occurrences and for whether they were hate-oriented. Finally, moral behaviors examined encompassed a wider range of activities due to the nature of the LDS culture. They included sexual activity acceptability and orientation shifts, changes in standards of language and honesty, shifts in respect levels and dress standards, and more.

(Dawidowicz, 2001, p. 86-88)

This conclusion is from a dissertation proposal. Notice that it includes not just a consideration of all factors, but also a consideration of how the data gathered and conclusions drawn impact the research design itself. That is a part of the conclusion to a literature review.

Conclusion 3:

The traditional smokestack school paradigm considers technology a teacher, while the modern information technology paradigm sees technology rather as a resource and facilitator. Although XXX students' long-term activities, educational successes, and life adjustment have yet to be examined and students' opportunities to learn cooperative and collaborative interactions have yet to be addressed, the program offers numerous advantages. They include lowered costs for schools and parents, flexible schedules, quality education, opportunities for accelerated learning, and more.

As episodes like Littleton illustrate, one important advantage is that, even in the cyber environment, its emphasis on human interaction and adolescent socialization continues to exist. Although many see technology as the needed panacea to cure all evils—allowing cost cutting, compensating for local physical or personnel resource shortages, and allowing the student to control the speed of educational advancement—society cannot afford to forget the need to provide positive social interaction. Utah's XXX provides both positive cyber opportunities and the opportunity for maintained IRL opportunities that gives its students, perhaps, the best of both worlds. (Dawidowicz, 2002, p. 73)

This conclusion is straightforward, points out strengths and weaknesses of the research, and highlights the limitations of the literature.

Practice

Review the information provided in this section. Read a number of peer-reviewed article and literature review conclusions. Review your literature review, and identify the important points made in your literature review. Then draft a conclusion for your literature review.

Discussion and Writing Activity

Review your conclusion. Consider whether it shares the information you should share to summarize your topic. Does it share your most important points? Does it share enough information for your reader on your work's importance? Does it lay the groundwork for either your research design or your change project? Rewrite it as appropriate.

References

- Dawidowicz, P. (2003). Teaching morality in schools in Utah's religion-based society. *Journal of Moral Education*, 32(3), p. 275-289.
- Dawidowicz, P. (2001). *"Sometimes you gotta learn the concept, not just the rules": Educational and cultural impacts of Utah's diversification process*. Ann Arbor, MI: UMI Press.

Revisions and Editing

You've completed a peer review. You've considered what needs to be strengthened, rewritten, and removed. You've written your introduction and conclusion. What needs to be done before your literature review can be finalized?

Before finalizing your literature review, you'll need to use the editing process. Editing is examining your work with several questions in mind.

1. Are your sentences clear?
2. Are possessives and plurals written correctly?
3. Are titles and names all correct?
4. Is grammar throughout correct?
5. Is spelling correct?
6. Are sentences worded as simply and directly as possible?
 - i. Is active tense used as much as possible?
 - ii. Are colloquial terms not used?

- iii. Are there no extra prepositional phrases?
- 7. Is punctuation correct?
- 8. Are lists presented correctly in paragraphs or as separate lists?
- 9. Are citations presented for all paraphrasing?
- 10. Are quotation marks and citations used for all quotations?
- 11. Are references present and formed correctly?

In other words, is everything presented correctly from a technical standpoint?

Review this list of questions. Then review your work. If in doubt about the strength of your writing, you can hire an editor. However, before considering that, start by using Microsoft Word's spelling and grammar check. It won't identify all of your writing's issues, but it will identify enough to give you a good start.

As you use this list with Microsoft Word's program, you will benefit from personalizing the list. As you identify specific words you tend to misspell, specific phrases you tend to use incorrectly, or specific other problems with your writing, add an entry to the list to remind you to check for that problem in all future writing.

Good grammar and attention to detail make the difference between your work looking polished and you looking conscientious and your work looking slipshod and of questionable integrity and you looking sloppy and unconcerned about developing quality work. ***It's worth taking the time to do a good job.***

Practice

Review your material using the checklist just provided. Correct any errors you identify. If you have questions about anything, use the APA manual and the website provided or the appropriate manual and style guide for your literature review to get answers to your potential questions.

Discussion and Writing Activity

Review your literature review with a reader's eye. Consider whether your sentences alternate between long and short, use the right amount of technical wording, or present any material in an instructional manner rather than an academic manner. Rewrite any material required to finalize your literature review.

Other Resources

<http://grammar.ccc.commnet.edu/grammar>
<http://owl.english.purdue.edu/handouts/grammar/index.html>
<http://owl.english.purdue.edu/handouts/research/index.html>
<http://www.ucalgary.ca/UofC/eduweb/grammar/>
<http://www.refdesk.com/factgram.html>
<http://www.apastyle.org/elecref.html>

Summary of the Writing Process

When we refer to the writing process, it's important to remember that we actually use several processes almost religiously to ensure not just a strong review of the literature is created, but also a strong written product is created. Those stages are planning, researching (which has been covered only slightly here), organizing, drafting, reviewing, revising, reviewing, revising, and editing. Notice that we review, revise, review, and revise some more.

The implication here is that you should consider reviewing, revising, and editing at least twice for a product as large as a literature review. Why? Remember, a literature review is a living organism. It evolves as a child does through the research, writes, and rewrites you develop. You, as the investigator, gather new clues with each piece of information you read and incorporate into your critical thinking assessment.

To maximize your success at each individual stage, remember that you need to use a strong organizational process. You'll be using varying amounts of information based on the type of li-

terature review you're creating, but all will require a good organizational method. The use of brainstorming clustering, outlining, and the forms provided in this book will allow you to maintain strong organization.

Outlining also serves another purpose. As you evolve the information you want to place in your literature review, if you update your outline, you can identify where in your literature review draft you can insert the information you've gained. Remember that, although there are distinct stages of the writing process. Although before writing can begin a certain amount of research must occur, it isn't unusual for people to be writing literature reviews while still conducting research.

That said, each stage in the writing development process has a distinct purpose. Planning occurs after you've developed your question, done a preliminary survey of the literature available on your topic, and identified your questions. It's the process of conducting your free writing and clustering activities and planning your outline based on the literature you found available on your topic in your initial survey of the literature. Remember that your literature review by definition is an objective evaluation of your topic and situation. That means, as you develop and evolve your cluster and outline, you need to build into those activities an unbiased, objective consideration of your topic.

Your research gathering process can begin as you're doing your planning, or it can begin shortly after the planning stage. Either way, it will continue throughout most of your literature review writing process. One of your first research activities, though, will coincide with your planning activities. You'll develop a preliminary determination of which articles you're going to review.

You need to remember you're not locked into these articles. They're preliminary, and you may determine they don't contain information you can use. So, as you progress, continue to review and evaluate articles that may or may not be useful to you.

The organizing phase can include a number of activities. It occurs after you've done some research and have a greater understanding of the articles you want to integrate into your outline and your research. It might include the revision of your outline, but it always includes the organization of your literature to identify which articles you can use to support different perspectives on factors or subfactors you're considering in your outline.

Drafting is the process of writing, which can begin as soon as you begin generating ideas. Normally, drafting is an ongoing process. Even the most prolific writers rarely write a product as large as a literature review in one or two sittings. Often, the process of writing itself helps people see more clearly how the pieces of their review fit together and which points they want to share. In addition, writing can help writers smooth out logic connection issues that may not become obvious in clustering, initial outlining, and the ongoing outline revision process. If it can't be presented logically using words, maybe there's something missing in the logic itself.

Reviewing your written product occurs periodically when you determine you need to conduct a review. The reasons for conducting a review are to ensure you're following your plan and your outline, to ensure that your logic makes sense, to ensure that your wording is as professional and effective as you would like it to be.

Reviewing is most easily accomplished by taking a few days' break so you have time to gain distance from the exact wording, phrasing, and thoughts you've written. Often, as people write, they complete a thought in their minds that they only partially commit to paper. This break from reading your work gives you time to become less familiar with the words you've written so you can more easily recognize the holes and ineffective passages that exist in your writing.

Remember to use the outlining technique for what you've written to see whether your points are made effectively. Revising is the improvement of whatever is weak, so whatever you identify as needing revision you should rewrite until you feel it is effective.

Finally, after reviewing and revising at least two times, you reach the editing stage. Editing is examining the material for directness, proper format and grammar, and correct style usage. Remember that, even though your formatting requirements will be slightly different for a simple literature review or an applied literature review, your grammar and directness standards will still be the same.

Notice that the discussion of conducting a review of your literature review was placed near the end of this description of the writing process. However, a literature review, like any written product, is a living organism while it's being written. Pausing halfway through the production process to review the direction your research and writing have taken allows you an opportunity to consider whether your work is staying on track. Remember, literature reviews often deal with potentially unwieldy topics. As you conduct your review, you should ask yourself several questions. Is your

review of the literature still looking at the same questions? Do you need to alter your questions slightly, make them more specific, or select new questions to make your literature review as strong as possible? Do you need to force yourself to limit the articles you read or review in order to stay on task? Remember, you can always create a file to save those articles that are fascinating but that don't quite fit what you're examining.

As you read the articles you review, the forms supplied in this book allow you to organize a systematic critical assessment of the literature used in your review. The forms should help you more easily identify how the literature relates to your topic or questions. They should allow you to shift from article summary to article analysis to more advanced higher order thinking skills to incorporation of the information you develop into your literature review. Those forms are designed to be tailored by you to maximize your success. The forms include categories that may not be useful to you depending on the type of literature review you're developing and on the types of articles and literature sources available to you. In addition, depending on your topic, you may need to add some categories not yet entered there. Play with the forms, and take control of your research process.

Once again, you don't have to present your examination in sections ordered analysis, comparison and contrast, evaluation, and synthesis and integration. When you organize your reviews by topic instead of author or theorist, you can include analyses, comparisons and contrasts, and evaluations in the discussion as you consider each topic. This more sophisticated organizational pattern systematically examines factors of a topic, including multiple subfactors, perspectives, and

dimensions of those factors. This integration of information on each of those factors and its relationship to your topic makes it easier for readers to understand and appreciate the information you've identified and the conclusions you've drawn.

Don't forget to create good paragraphs with strong topic sentences that act as umbrellas to the information those paragraphs each share. That means that every topic you discuss in the paragraph should be mentioned in some simple manner in the topic sentence. If you do that, your paragraph's cohesion will be strong.

Remember also to use concluding sentences that summarize the information you've shared in the paragraph. Such sentences create a logical segue to the next paragraph by restating the point of that paragraph as clearly as possible. In a well-written literature review, the topic sentences and conclusion sentences could be part of your outline.

Finally, remember that the goal of your work is to objectively explore a question. Is your work objective? Have you considered at least two or three different possibilities about the factors you've identified about your topic? Have you drawn conclusions based not on your experience, but on the weight of the evidence shared in the peer-reviewed articles you read? Have you identified how the research perspectives you've examined either complement or contradict each other and, if they contradict each other, how they can actually be combined to help create a realistic picture of your topic?

With this review, you have a succinct summary of how to plan, organize, structure, and review your

literature review. Remember that this writing process combined with the analysis process to follow will help you succeed in developing a strong literature review.

Other Resources

<http://www.ecs.org/html/educationIssues/Research/primer/researchtrustworthy.asp>
<http://www.ecs.org/html/educationIssues/Research/primer/researchwarrants.asp>

Review of Analysis Methods

This is the final section, so it contains a quick review of each of the analysis, or evaluation, methods. Although Bloom's taxonomy identifies critical thinking skills differently, this book presents a simple method of critically evaluating articles. Regardless of the type of literature review you're creating—simple, applied, or academic—you'll use these several steps to help understand the importance to your topic of what you're reading in the sources appropriate to your review.

Analysis

Analysis is the first step in considering any article. It examines the article's accuracy based on sample size and methodology, strength of the research used to draw conclusions, logic behind the research used to draw conclusions, and appropriateness of the conclusions to the research and methodology. It considers the internal integrity of the article and whether it really is valuable as a source within your literature review. Here are the questions once again.

1. Is the logic behind the study sound? (Does it have a solid theoretical framework?)
 - a. Are the literature sources upon which the research design is based sound?
 - b. Are they interpreted correctly by the author in the process of laying the ground work for the study?
 - c. Is the presentation unbiased, or is it skewed because there is not enough consideration of opposing views and different perspectives on the questions being considered?
2. Is the question being examined sufficiently narrowed and able to be tested accurately?
3. Is the research design appropriate for the question being examined?
 - a. If it's a question about a causal relationship, is it an experimental quantitative design?
 - b. Is the sample size large enough?
 - c. Is it a biased sample?
 - d. Is it the wrong type of sample?
 - e. Is its methodology examining the question being considered?
4. If an article is a not a report of research, are quality resources used in the creation of the article that are treated in an unbiased manner?
 - a. Are the sources sufficient and rich enough to draw the conclusions drawn?
 - b. If the article is exploratory in nature (designed only to consider

- c. possibilities and not draw conclusions), does it consider enough possibilities to be unbiased and effective?
- 5. Do the data as reported appear to have been appropriately interpreted?
- 6. Are the conclusions that were drawn appropriate for the design and the data collected?
 - a. Are the conclusions identified as appropriately limited?
 - b. Are the conclusions specific and clear?
- 7. What are the credentials of the contributors?
 - a. Is the author a Ph.D., or does the author have credentials in the field?
 - b. Does the author use quality sources to establish the argument?

Comparison and Contrast

Comparison and contrast are two sides of a coin. These two methods consider how articles are similar to and different from each other. They examine whether articles contradict each other or reinforce each other and whether the samples used are different enough to account for the discrepancies or variations in findings. They pave the way for the development of syntheses and integrations later. The questions are supplied once more here.

Comparisons consider:

1. Similarities in theoretical frameworks (logic, research, and rationale behind the position taken and the research question chosen).
2. Similarities in research limitations.
3. Similarities in research assumptions.
4. Similarities in research design.
5. Similarities in research study samples.
6. Similarities in research results.
7. Similarities in research conclusions.

They can be structural (theoretical frameworks, research design, limitations, etc.) or substantive (results or conclusions).

Contrasts consider:

1. Differences in theoretical frameworks (logic, research, and rationale behind the position taken and the research question chosen).
2. Differences in research limitations.
3. Differences in research assumptions.
4. Differences in research design.
5. Differences in research study samples.
6. Differences in research results.
7. Differences in research conclusions.

They also can be structural (theoretical frameworks, research design, limitations, etc.) or substantive (results or conclusions).

Evaluation

Evaluation is the assessment of your literature against a different outside element or factor, most normally the topic you're researching in the situation you're examining. In other words, evaluations are often based on an examination of literature against a smaller, more specific topic than the topic being examined. Such topics can include a specific office, classroom, program, or other similar smaller unit or subunit of the overall topic being examined in the literature review.

To maximize an evaluation, you need to consider several factors. These factors help your evaluation—your assessment of what you've learned in the literature in relation to a specific outside topic, circumstance, occurrence, event, or phenomenon—to be both objective and well-linked to the literature you're reviewing.

As you do an evaluation, consider these questions:

1. How well linked is your evaluation point?
This link should be close, not distant.
2. How much can it help evaluate your literature?

Determine which evaluation point will give you the best chance to understand the literature. How do you do that? Identify which is going to give you different perspectives or insights you can use to compare and contrast programs or factors about your topic that you considered in the literature. There are different facets of each evaluation point to consider. However, the final decision will

be based on exactly what is available in the literature.

3. Conduct a comparison of the dynamics explored in the literature to see:
 - a. whether there's information on the characteristics of the programs or topics being discussed that you can compare to your topic and situation
 - b. whether there's information on the dynamics of participants' interactions or the chain of command or custody
 - c. whether there's information on the emotional support provided or some other specific feature or dynamic of your topic or of the program being considered that impacts how valuable a study or article is to you

Having done all of this, your goal is to take this information, consider the specific application or environment surrounding your topic, examine your goals for the review, and evaluate how the literature reviewed adds to your understanding of your own topic, situation, and environment.

Synthesis and Integration

Developing a synthesis and integration is the process of combining what appear to be complementary and apparently conflicting ideas to create a comprehensive picture of what's happening surrounding your topic and, potentially, in your environment. It's the consideration of all of the information you've gathered to help you gain an understanding about aspects of your topic and your environment so that you can draw conclusions (simple literature review), develop a plan of

action or similar product (applied literature review), or develop and justify the importance of a research study (academic literature review).

Syntheses and integrations are opposites of each other, but they function closely together. Syntheses are identified often by commonalities and the ability to explain specific environments. Integrations are identified by their apparent disagreement with syntheses and with each other, and they're integrated by identifying their limiting characteristics and seeing how those limiting characteristics allow you to mesh the information together without actual conflict.

Here are some guidelines for synthesis:

1. Examine each article's conclusions or major points to see which don't contradict each other. This information will normally come from comparisons you've made, because comparisons by their nature work together instead of contradicting each other.
2. Look at the piece of the overall, "big" picture each of those pieces of information adds.
 - a. Put differently, how do these pieces of information weave together to create a spider web, or framework, that will help you understand the environment in which your topic or situation occurs?
 - b. How do they reinforce each other?

Before moving on, remember to be careful when creating syntheses. During the process of creating syntheses, researchers are building conclusions

*based on the linking (or weaving together) of multiple ideas. This is a point where **faulty logic, inappropriately or inaccurately understood or applied information, or overgeneralization can cause fatal errors in the development of a sound literature review.** Since a literature review is used to develop a theoretical framework for further research or project development, it's essential to be rigorous in examining literature and data during this synthesis process.*

Integration complements synthesis because it's the process of finding a way to make seemingly contradictory ideas form some type of logical complementary picture. Here are some questions to consider:

1. Look at how the conclusions in the articles differ.
2. Consider how the situations which were examined or studied differed.
3. Consider whether the different conclusions could be related directly to the difference in circumstances.
4. Consider how you can use the different conclusions to create a framework that explains the occurrence of those variations or differences in the literature.

The result will be another part of the spider web, or framework, that allows you to accurately evaluate your topic and situation.

The critical thinking process required to develop a solid literature review is a constructivist process. Each literature analysis step builds on the previous, systematic step until a complete picture of

the circumstance, question, or environment you're examining surrounding your topic is presented. Paramount to this process is ensuring your logic links are solid. Following this outline and using these tools and questions to develop the information you present in your literature review will help you ensure those solid links are present in what can become an outstanding literature review.

Appendix

Here you'll find two forms you can use to assess your articles. The first helps with basic analysis of articles. It contains categories that may not always be useful to you depending on the type of article you're using. The second contains columns for evolution of each of the assessment types.

Article Assessment Form

This form can be copied and expanded. It's designed to provide a basis for analyzing articles. In each column, place explanatory materials, as well as any noted issues with that category as you read the articles. For an article that doesn't report a study, examine closely the theoretical framework and the literature review the article is presenting, the discussion of methodologies used in the literature review's cited articles, and other questions you would consider when examining an article reporting a study. Has the author whose work you're reading discussed those issues? Note the important facts on your form.

Use this form to catalog important information for use with your Article Analysis Form.

Article Assessment Form

Question/Topic Addressed in Article	Article Title	Author	Study/ Article Type (research, meta-analysis, etc.)	Theoretical Framework of Article	Questions/ Hypotheses Explored in Article	Methodology Used in Article	Sample Size used in study	Analysis of Article and Contents	Author's conclusions/ your conclusions

Article Analysis Form

Having completed the Article Assessment Form as you read each article, you're ready to use the Article Analysis Form to consider analytically each major characteristic of the articles you've read. Please consider the strengths and weaknesses of each part of the article you've read. As you list the strengths and weaknesses in the form, be specific. What specific statement, method, or activity struck you as a noteworthy strength or weakness?

Article Analysis Form

Article name/ publication date	Question strong points	Question weak points	Framework Strong points	Framework weak points	Methods strong points	Methods weak points	Analysis/ conclusion Strong points	Analysis/ conclusion Weak points

Critical Thinking Chart

This open table is designed to allow development of comparisons and contrasts in the columns following the summary and analysis. Think of those columns as open for the evolution of ideas in a similar manner as that used to develop free writing and clustering ideas.

After you complete the entries on the Article Assessment Table for each successive article, examine your information and develop entries for these categories. As you'll notice, these are open columns designed to allow you to draw lines from different relevant article summary points to the column for the critical thinking type you've developed.

As you can imagine, this becomes a living, breathing form to help you identify critical thinking points. Information involving an article doesn't have to be next to the article entry in the left column. You may also find yourself adding important facts from your Article Analysis Form as you add articles that have comparison or contrast points in relation to other, previously analyzed articles. Finally, some of your entries about an article may not be listed in the same location as other entries if a point in a previously read article doesn't appear significant to you until you read another article with a point that makes it appear significant to you. To help with these column-adjustment issues, I suggest creating this form online, either in Microsoft Word landscape mode or in Microsoft Excel, so that you can add information related to your articles in the appropriate columns and rows by adding rows as needed and as the relationships between factors, subfactors, perspectives, and other dimensions occur to you.

Critical Thinking Chart

Article Identification & Important Point	Comparison	Contrast	Synthesis	Integration	Evaluation	Your Overall Conclusions

About This Book:

People write literature reviews for many business and academic reasons. This book is a quick guide to producing quality literature reviews, whether basic or doctoral academic reviews, business reviews, or government RFP reviews. It focuses on practical considerations other texts don't cover—considerations like limiting topics; identifying appropriate resources; organizing resources; and planning, organizing, and presenting your findings. Using lists of questions, charts, and tables, it also presents examples of wording and presentation for higher order critical thinking functions like analyses, comparisons, and contrasts. Finally, its reader-friendly information is presented in short, easily digestible segments followed by exercises and activities to help users understand and incorporate the information and techniques provided. This book is a must use for both individuals and classes!

About The Author:

Paula Dawidowicz is the Ph.D. Research Director for Walden University's Richard W. Riley College of Education and Leadership. She's also a highly published, well known writer in the areas of systems thinking, critical thinking, logic, objectivity, and the creation of equal educational opportunity and outcomes. Including her previous years, she's been conducting literature reviews for the government, private sector, and academics since 1981.



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